



COUNTY BOROUGH OF SALFORD.

---

# ANNUAL REPORT

OF THE

## MEDICAL OFFICER OF HEALTH

FOR THE YEAR

### 1916.

BY

C. H. TATTERSALL,

MEDICAL OFFICER OF HEALTH.

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JOHN HEYWOOD LTD,  
Printers and Publishers, Manchester and London.





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## MEMBERS OF THE HEALTH COMMITTEE.

1916-1917.

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Alderman HUDDART, J.P., *Chairman*.

Alderman DESQUESNES, *Deputy-Chairman*.

Councillor HIGSON, J.P.  
(*Mayor*).

Alderman HULTON, J.P.  
(*Deputy Mayor*).

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## TO THE HEALTH COMMITTEE.

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GENTLEMEN,—

I have the honour to present my Annual Report on the health of the Borough and the work of the Public Health Department for the year 1916.

There has been a further reduction in the Birth Rate during the year from 24·8 per 1,000 to 21·8 per 1,000. This is the lowest birth rate recorded in Salford, and is less than half the rate recorded in 1878. The Death Rate has decreased, being 15·8 per 1,000, as compared with 19·1 for 1915. This is also the lowest rate recorded.

There is a decrease in the Infantile deaths, which have been at the rate of 115 per 1,000 births, which again is the lowest rate recorded.

The estimate of the population of the Borough on which these figures are based has been made by the Registrar-General on the results of the National Registration Act, allowing for the removal of that portion of the population which has undertaken military duties, so they are not really comparable with the rates given for the previous years.

There has again been a marked reduction in the number of cases of notifiable infectious disease. Excluding Tuberculosis and Measles the total number was 908, which is 718 less than last year, and 968 less than the average of the previous five years. There were eight cases of Small Pox, which, unfortunately, necessitated the closing of Drinkwater Park Hospital for the treatment of Phthisis, but the spread of the disease was quickly checked.

The work of the Maternity and Child Welfare Department has been actively carried on during the year, and the efforts of the Medical Officer and the Health Visitors appear to be much appreciated, and the attendance at the Clinics and the Mothers' Guilds has increased.

During the year a valuable step in advance has been taken by the Education Committee in opening an Open-Air School in the David Lewis Recreation Ground. Accommodation exists here for 60 children, and an account of the work done is given in the body of the Report.

Measles was made compulsorily notifiable during the year, and 2,065 cases have been notified. It is hoped that the increased attention directed to this disease may result in a considerable saving of infant life.

The Local Government Board have issued an Order respecting the Prevention and Treatment of Venereal Diseases, and a Scheme has been prepared and submitted providing for the establishment of a clinic, available without charge to all members of the community, and providing facilities for diagnosis and treatment by Medical Practitioners.

Great difficulties still exist in dealing with the clerical work of the Department, and in many directions the ordinary work has had to be curtailed owing to the depletion of the Staff caused by the war.

I have the honour to be, Gentlemen,

Your obedient Servant,

C. H. TATTERSALL,

Medical Officer of Health.

PUBLIC HEALTH DEPARTMENT,

TOWN HALL, SALFORD,

*29th May, 1917.*



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SECTION I.  
MORTALITY STATISTICS.



## SECTION I.

# MORTALITY STATISTICS.

---

### Population.

The Registrar-General estimates that the civil population of the County Borough of Salford was 214,229 in the middle of 1916, and this number is made the basis on which the various Death and Sickness rates mentioned in this report are calculated.\*

The birth rate is calculated on a population of 233,085, which represents the total population based on the assumption that the ratio between the total and the civilian population is the same in Salford as in England and Wales as a whole.

The natural increase of the population for the year, that is, the excess of births over deaths, is 1,710.

### Births.

There were 5,091 births registered in the Borough in 1916, 2,588 being males and 2,503 females, giving a birth rate of 21·8 per thousand of the population. This

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\* This estimate is based on the returns under the National Registration Act, making the necessary allowance for enlistments, &c.

is a decrease from the previous year of 364 births, or a decrease in the birth rate of 3·0 per thousand. There were 197 births registered as illegitimate, or 3·9 per cent of the total births; 39 of these illegitimate births were registered in the first quarter, 53 in the second, 51 in the third, and 54 in the fourth.

STILL BIRTHS.—I have ascertained from the Registrars of the Cemeteries, and the Sextons of other burial grounds, that the bodies of 203 still-born children have been buried. The Midwives notified the occurrence of 111 still births.

### Deaths.

The total number of deaths registered in the Borough during 1916 was 3,381, of which number 1,751 were males and 1,630 females, giving a death rate of 15·8 per thousand of the population.

Out of the total number of deaths 3,103 or 91·8 per cent were certified by Registered Medical Practitioners, 272 or 8·0 per cent by the Coroner, and 6 or 0·2 per cent were uncertified.

ACUTE LUNG DISEASES.—From bronchitis, pneumonia, and pleurisy, 732 deaths were registered, against 966 for 1915, 879 for 1914, and 849 for 1913. From bronchitis there were 401 deaths, giving a death rate of 1·9 per thousand persons living, while from pneumonia there were 321 deaths, giving a death rate of 1·5. From respiratory diseases generally there were 227 less deaths than in 1915.



CANCER.—There were 211 deaths registered as being due to cancer or malignant disease, giving a death rate of 1.0 per thousand, as compared with 1.1 last year.

NERVOUS DISEASES.—From the various nervous diseases there were 274 deaths, giving a death rate of 1.3 per 1,000, as compared with 1.4 in 1915, 1.4 in 1914, 1.4 in 1913, and 1.4 the average for the five years 1911 to 1915.

HEART DISEASE.—There were 284 deaths from heart disease. This gives a death rate of 1.3 per 1,000, compared with 1.6 for 1915, 1.8 for 1914, 1.8 for 1913, and 1.6 the average for the five years 1911 to 1915.

PHTHISIS, TUBERCULAR DISEASES, AND INFLUENZA.—The mortality from these diseases will be found in Section II. of this report.

INFANT MORTALITY.—There were 587 deaths of infants under one year of age registered during the year, giving a death rate of 115 per thousand births. This is a decrease on the previous year, when the death rate was 134 per thousand births. The average of the preceding five years was 137 per thousand births. The chief causes of death among infants, compared with the average of the preceding five years, were—

Zymotic diseases . . . . .	103	compared with	270
Atrophy, marasmus, debility..	82	„ „	92
Premature birth . . . . .	100	„ „	118
Convulsions. . . . .	26	„ „	32
Bronchitis and pneumonia . . .	140	„ „	170



The 108 deaths from zymotic diseases were due to diarrhoea, 75 ; measles, 19 ; and whooping cough, 14.

The work of the Health Visitors for the purpose of checking infant mortality is dealt with in Section V. of this report.

**SENILE MORTALITY.**—817 or 24 per cent of the total deaths were those of persons of 65 years of age or over ; this is 2 per cent more than last year. Of these 217 were certified to have died from old age, 88 from heart disease, 161 from bronchitis, 73 from brain disease, and 67 from cancer.

**ZYMOTIC DISEASES.**—The death rate from the seven zymotic diseases for the year was 1·2 per thousand of the population, as compared with 2·8 in the previous year, 1·9 in 1914, and 1·9 in 1913. The deaths from the various diseases are given in the following table :—

	1916		1915		1916		1915	
Measles.....	68	..	263	Whooping Cough.	35	..	49	
Scarlet Fever.....	22	..	31	Diphtheria.....	17	..	29	
Fever {	Typhus ..	—	..	—	Diarrhœa .....	109	..	223
	Enteric ..	12	..	19	Small Pox .....	1	..	—
	Continued	—	..	—				

Detailed information as to zymotic sickness will be found in Section II. of this report.

### Deaths among Members of Naval and Military Forces.

The deaths of 3 Salford residents were reported during the year. These occurred outside the Borough.

Thirty-two deaths have occurred in the Borough of residents outside the district.

**Elevation.**—The mean elevation of the Borough is 140 feet above sea-level, and varies between 85 feet and 250 feet.

TABLE M. 1.  
FOR WHOLE DISTRICT.

YEAR.	Population, to Middle of each Year.	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS		NETT DEATHS BELONGING TO THE DISTRICT.			
		Un- corrected Number.	Nett.		Number.	*Rate.	of Non- Residents registered in the District. 8.	of Residents not registered in the District. 9.	Under 1 Year of Age.		At all Ages.	
			Number.	*Rate.					Number.	Rate per 1,000 Nett Births. 11.	Number	*Rate.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10	11.	12.	13.
1911.....	231,641	6,281	6,345	27.4	3,890	16.8	77	223	980	154	4,036	17.4
1912.....	232,726	6,134	6,227	26.8	3,853	16.6	60	212	811	130	4,005	17.2
1913.....	233,849	6,336	6,430	27.0	3,819	16.0	117	181	891	139	3,883	16.3
1914.....	234,975	6,236	6,318	26.9	3,941	16.8	129	199	793	126	4,011	17.1
1915.....	219,979	5,373	5,455	24.8	4,071	18.5	155	275	733	134	4,191	19.1
1916.....	214,229	4,979	5,091	21.8	3,340	16.4	203	244	587	115	3,381	15.8

\* Rates in Columns 5, 7, and 13 calculated per 1,000 of estimated population.

NOTE.—The deaths to be included in Column 6 of this table are the whole of those registered during the year as having actually occurred within the district or division. The deaths to be included in Column 12 are the number in Column 6, corrected by the subtraction of the number in Column 8 and the addition of the number in Column 9.

By the term "Non-Residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

Area of district in acres (exclusive of area covered by water) .. 5,202

Total Population at All Ages .. 231,380 } At Census of 1911.  
Total Families or Separate Occupiers.. 47,935 }



TABLE M. 2.

Ward.	Population estimated to the middle of the Year.	Death-rate per 1,000.	Deaths under 1 year per 1,000 Births.
Kersal .....	16,778	11·0	56
Albert Park .....	14,422	13·8	78
Grosvenor .....	13,310	13·5	99
St. Matthias' .....	11,637	17·6	118
Trinity .....	9,338	17·6	126
Crescent .....	11,451	18·2	163
Islington .....	9,145	28·1	220
Regent .....	11,560	15·2	97
Ordsall .....	13,889	19·5	126
Trafford .....	10,572	19·3	171
Charlestown .....	15,030	14·8	119
St. Thomas' .....	10,375	17·4	148
St. Paul's .....	11,559	18·3	126
Seedley .....	21,459	13·5	75
Weaste .....	12,982	13·3	76
Hope .....	20,722	12·3	102
<b>Totals .....</b>	<b>214,229</b>	<b>15·8</b>	<b>115</b>

## DEATHS IN WARDS FOR THE YEAR 1916.

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## MORTALITY STATISTICS.

CAUSES OF DEATH.	AT ALL AGES.																
	Borough.	Kersal.	Albert Park.	Grosvenor.	St. Matthias.	Trinity.	Crescent.	Islington.	Regent.	Ordall.	Trafford.	Charlestown.	St. Paul's.	Seedley.	Weaste.	Hope.	
Enteric Fever .....	12	..	..	..	..	..	..	2	..	3	1	2	1	2	..	..	
Small-pox .....	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	
Measles .....	68	..	1	1	1	..	7	..	3	5	..	19	12	3	1	8	
Scarlet fever .....	22	2	..	1	2	..	2	1	..	2	4	..	..	3	1	2	
Whooping cough.....	35	2	2	6	..	1	3	2	1	2	2	2	..	5	3	2	
Diphtheria and Croup .....	20	4	5	1	..	..	1	1	..	3	1	2	1	..	1	..	
Influenza .....	33	5	1	2	2	1	6	..	2	..	1	3	2	..	6	2	
Erysipelas.....	3	..	..	..	..	..	..	..	1	..	..	..	..	2	..	..	
Anthrax .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Phthisis (Pulmonary Tuberc.) .....	337	13	16	19	16	20	23	35	18	27	14	20	21	33	12	25	
Tuberc: Meningitis .....	41	6	2	..	4	2	2	3	2	5	4	1	2	4	..	3	
Other tuberculous diseases.....	61	3	2	1	3	2	2	6	4	6	8	5	1	6	2	3	
Cancer (Malignant Disease) .....	211	16	19	15	11	8	11	7	16	17	8	9	12	16	8	19	
Rheumatic Fever .....	23	..	3	2	2	1	2	3	..	2	2	2	..	2	..	1	
Meningitis.....	23	1	2	1	1	1	..	..	..	..	1	4	2	3	3	2	
Cerebro-Spinal Meningitis .....	6	1	..	..	..	..	1	..	1	..	1	2	..	..	..	..	
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Poliomyelitis .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Organic Heart Disease .....	284	..	23	20	16	15	17	14	19	9	14	15	19	10	17	33	26	17
Bronchitis .....	401	..	21	25	27	28	23	24	41	23	40	32	13	12	20	30	22	20
Pneumonia (all forms).....	321	..	5	13	12	26	15	26	19	14	28	20	22	25	27	30	16	23
Other Diseases of Respiratory Organs.....	41	..	1	3	1	2	4	..	8	2	1	2	1	1	1	5	3	6
Diarrhœa and Enteritis .....	109	..	1	5	3	9	4	13	9	4	16	11	9	3	5	6	4	7
Appendicitis and Typhlitis .....	17	..	1	3	1	1	..	1	3	..	2	..	..	..	..	2	1	2
Cirrhosis of Liver .....	20	..	..	..	1	3	..	..	2	3	3	..	1	1	2	2	1	1
Alcoholism .....	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..
Nephritis and Bright's Disease .....	94	..	6	7	4	6	..	7	5	4	6	2	5	6	6	11	5	14
Puerperal fever.....	3	..	..	..	..	..	..	..	..	..	..	..	..	1	..	2	..	..
Other Accidents and Diseases of Pregnancy and Parturition .....	8	..	1	..	..	..	..	..	2	1	..	..	1	1	..	1	..	1
Congenital Debility and Malformation, includ- ing Premature Birth .....	212	..	8	9	7	13	11	11	18	12	19	18	23	16	13	13	5	16
Violent Deaths (excluding Suicide) .....	142	..	5	7	9	5	10	6	8	14	15	17	11	7	8	6	5	9
Suicide .....	7	..	1	..	..	..	..	..	..	..	..	2	..	..	1	1	1	1
Other Defined Diseases .....	787	..	55	50	46	53	42	45	61	40	52	32	46	44	42	67	44	68
Ill-defined or Unknown .....	37	..	4	4	3	1	2	1	2	2	3	6	1	..	2	2	2	2
Totals .....	3381	185	199	180	205	164	208	257	176	271	204	223	181	211	290	173	254	

TABLE M. 4.

CAUSES OF, AND AGES AT, DEATH DURING THE YEAR 1916.

CAUSES OF DEATH.	NETT DEATHS AT THE SUBJOINED AGES OF "RESIDENTS" WHETHER OCCURRING WITHIN OR WITHOUT THE DISTRICT.									Total Deaths whether of "Residents" or "Non- Residents" in Institu- tions in the District.
	All Ages.	Under 1 year.	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 and upwards.	
ALL CAUSES—										
Certified .....	3,375	587	186	170	168	172	448	829	815	..
Uncertified .....	6	..	..	..	..	..	1	3	2	..
Enteric Fever .....	12	..	..	1	4	2	2	3	..	14
Small Pox .....	1	..	..	..	..	..	1	..	..	..
Measles .....	68	19	24	14	11	..	..	..	..	8
Scarlet Fever .....	22	..	..	10	7	3	1	1	..	28
Whooping Cough .....	35	14	12	8	1	..	..	..	..	2
Diphtheria and Croup .....	20	..	3	9	8	..	..	..	..	37
Influenza .....	33	1	1	..	..	4	4	13	10	1
Erysipelas .....	3	..	..	..	..	..	1	2	..	1
Anthrax .....	..	..	..	..	..	..	..	..	..	..
Phthisis (Pulmonary Tuber- culosis) .....	337	3	4	8	28	67	144	78	5	72
Tuberculous Meningitis ....	41	4	9	13	11	3	1	..	..	7
Other Tuberculous Diseases .	61	19	6	11	8	9	3	4	1	25
Cancer, malignant disease .	211	..	..	1	..	1	26	116	67	54
Rheumatic Fever .....	23	..	1	..	5	3	2	7	5	2
Meningitis .....	23	9	3	4	4	1	1	1	..	3
Cerebro-Spinal Meningitis ..	6	..	..	2	4	..	..	..	..	6
Poliomyelitis .....	..	..	..	..	..	..	..	..	..	..
Organic Heart Disease .....	284	1	..	1	10	11	52	121	88	55
Bronchitis .....	401	55	12	9	3	2	26	133	161	63
Pneumonia (all forms) .....	321	85	59	37	14	15	33	46	32	45
Other diseases of Respiratory organs .....	41	3	1	2	1	1	5	18	10	5
Diarrhoea and Enteritis ....	109	75	20	6	..	..	2	5	1	10
Appendicitis and Typhlitis .	17	..	..	..	9	..	7	1	..	14
Cirrhosis of Liver .....	20	..	..	..	..	..	3	14	3	6
Alcoholism .....	2	..	..	..	..	1	1	..	..	..
Nephritis & Bright's Disease .	94	..	..	2	3	2	23	41	23	30
Puerperal Fever .....	3	..	..	..	..	..	3	..	..	3
Other accidents and diseases of Pregnancy & Parturition	8	..	..	..	..	4	4	..	..	1
Congenital Debility and Malformation, including Premature Birth .....	212	208	3	1	..	..	..	..	..	21
Violent Deaths, excluding Suicide .....	142	15	5	11	19	9	19	36	28	95
Suicide .....	7	..	..	..	..	1	4	2	..	1
Other Defined Diseases ...	787	74	22	17	17	31	77	177	372	274
Diseases ill-defined or un- known .....	37	2	1	3	1	2	4	13	11	2
Totals .....	3,381	587	186	170	168	172	449	832	817	885

TABLE M. 5.

INFANT MORTALITY DURING THE YEAR 1916.

NETT DEATHS FROM STATED CAUSES AT VARIOUS AGES UNDER ONE YEAR OF AGE.

CAUSE OF DEATH.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 4 Weeks.	4 Weeks and under 3 Months.	3 Months and under 6 months.	6 Months and under 9 Months.	9 Months and under 12 m'ths.	Total Deaths under one Year.
ALL CAUSES—										
Certified .....	125	19	36	25	205	106	106	81	89	587
Uncertified .....	..	..	..	..	..	..	..	..	..	..
Small-pox .....	..	..	..	..	..	..	..	..	..	..
Chicken-pox .....	..	..	..	..	..	..	..	..	..	..
Measles .....	..	..	1	..	1	..	1	6	11	19
Scarlet Fever.....	..	..	..	..	..	..	..	..	..	..
Whooping-cough .....	..	..	..	..	..	1	5	3	5	14
Diphtheria and Croup.....	..	..	..	..	..	..	..	..	..	..
Erysipelas.....	..	..	..	..	..	..	..	..	..	..
Tuberculous Meningitis ..	..	..	..	..	..	..	1	1	2	4
Abdominal Tuberculosis..	..	..	..	..	..	4	7	5	1	17
Other Tuberculous Dis-	..	..	..	..	..	..	..	..	..	..
eases .....	1	..	..	..	1	..	1	1	2	5
Meningitis (not Tuberc.) ..	..	..	..	..	..	1	2	4	2	9
Convulsions .....	9	..	2	..	11	3	3	5	4	26
Laryngitis.....	..	..	..	..	..	..	..	..	..	..
Bronchitis.....	..	..	3	1	4	15	15	10	11	55
Pneumonia (all forms) ..	1	..	2	1	4	10	21	19	31	85
Diarrhoea .....	1	..	1	2	4	6	12	8	2	32
Enteritis .....	..	..	2	3	5	12	14	7	5	43
Gastritis .....	..	..	..	..	..	2	1	2	1	6
Syphilis .....	..	1	1	1	3	4	..	..	1	8
Rickets .....	..	..	..	..	..	..	..	1	1	2
Suffocation, overlying ...	4	..	..	1	5	5	2	..	..	12
Injury at Birth .....	2	..	..	..	2	..	..	..	..	2
Atelectasis .....	4	1	..	..	5	..	..	..	..	5
Congenital Malformations	7	1	4	3	15	6	1	2	2	26
Premature Birth .....	68	6	11	3	88	10	1	..	1	100
Atrophy, Debility, and	..	..	..	..	..	..	..	..	..	..
Marasmus .....	20	8	7	6	41	20	13	6	2	82
Other causes .....	8	2	2	4	16	7	6	1	5	35
Totals.....	125	19	36	25	205	106	106	81	89	587

Nett Births in the Year	{ Legitimate .... 4,894	Nett Deaths in the Year of	{ Legitimate Infants. 544
	{ Illegitimate ... 197		{ Illegitimate Infants 43



**TABLE M. 7.**

BIRTHS IN THE COUNTY BOROUGH OF SALFORD AND IN ITS WARDS,  
DISTINGUISHING DEATHS OF LEGITIMATE AND ILLEGITIMATE  
INFANTS UNDER ONE YEAR OLD.  
FOR THE YEAR 1916.

Ward.	Births.		Percentage of Illegit. Births to total Births.	Deaths under One Year.		Proportion of Deaths under One Year per 1,000 Births.		
	Total.	Illegit.		Total.	Illegit.	Total.	Legit.	Illegit.
Kersal .....	302	10	3·3	17	2	56	51	200
Albert Park .....	374	10	2·7	29	2	78	74	200
Grosvenor .....	304	8	2·6	30	1	99	98	125
St. Matthias' .....	315	13	4·1	37	4	118	109	308
Trinity .....	247	14	5·7	31	4	126	116	286
Crescent .....	289	13	4·5	47	3	163	159	231
Islington .....	241	18	7·5	53	7	220	206	389
Regent .....	267	12	4·5	26	4	97	86	333
Ordsall .....	406	11	2·7	51	3	126	122	273
Trafford .....	298	6	2·0	51	2	171	168	333
Charlestown .....	419	10	2·4	50	3	119	115	300
St. Thomas' .....	247	7	2·8	36	1	148	146	143
St. Paul's .....	285	7	2·5	36	2	126	122	286
Seedley .....	479	13	2·7	36	1	75	75	77
Weaste .....	236	33*	14·0	18	2	76	79	60
Hope .....	382	12	3·1	39	2	102	100	167
<b>Totals .....</b>	<b>5,091</b>	<b>197</b>	<b>3·9</b>	<b>587</b>	<b>43</b>	<b>115</b>	<b>112</b>	<b>218</b>

CORRESPONDING DATA FOR THE BOROUGH FOR THE TEN YEARS 1906-1915.

<b>Borough .....</b>	<b>64,838</b>	<b>2,074</b>	<b>3·2</b>	<b>9,730</b>	<b>561</b>	<b>150</b>	<b>146</b>	<b>270</b>
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\* Includes illegitimate births in the Union Workhouse.

TABLE M. 14.

SHOWING THE BIRTH-RATES, ALSO RATES OF MORTALITY FROM ALL CAUSES, FROM THE SEVEN PRINCIPAL ZYMOTIC DISEASES, AND FROM PHTHISIS, CANCER, NERVOUS DISEASES, HEART DISEASES, BRONCHITIS, PNEUMONIA, AND THE MARRIAGE RATE, DURING THE YEARS 1878 TO 1916.

Years.	Population.	Rates per 1,000 Population from									Deaths under One Year to 1,000 Births.	Marriage Rate.
		Births.	Deaths, All Causes.	Seven Principal Zymotic Diseases.	Phthisis.	Cancer.	Nervous Diseases.	Heart Diseases.	Bronchitis.	Pneumonia.		
1878..	160,277	44.7	27.1	5.4	2.7	0.5	3.5	1.1	3.6	1.8	185	17.9
1879*	165,899	43.0	26.7	4.2	2.9	0.4	3.7	1.2	4.3	1.8	170	15.2
1880..	171,727	41.4	27.9	7.4	2.7	0.4	3.2	0.9	3.4	1.9	197	16.6
1881..	177,760	38.8	22.5	3.0	2.5	0.5	3.1	1.1	3.6	1.6	163	16.4
1882..	179,855	39.7	23.7	4.0	2.4	0.4	3.6	1.1	2.8	1.7	177	16.9
Average 5 years.		41.5	25.6	4.8	2.6	0.4	3.4	1.1	3.5	1.8	178	16.6
1883..	181,951	37.3	23.6	3.4	2.7	0.4	3.1	1.2	3.0	1.7	171	16.1
1884*	184,047	38.8	24.4	4.4	2.6	0.5	2.9	1.1	2.8	1.7	184	16.1
1885..	186,142	37.6	23.0	3.6	2.6	0.5	2.9	1.2	3.0	1.9	174	16.1
1886..	188,238	38.5	24.8	4.1	2.6	0.5	2.8	1.3	3.3	1.8	197	15.3
1887..	190,334	36.6	25.5	4.9	2.3	0.5	3.2	1.3	2.9	2.2	195	15.4
Average 5 years.		37.8	24.3	4.1	2.6	0.5	3.0	1.2	3.0	1.9	184	15.8
1888..	192,429	37.1	24.8	3.9	2.3	0.5	3.0	1.1	3.0	2.1	184	15.2
1889..	194,525	35.9	25.1	5.3	1.9	0.6	2.5	1.3	2.6	1.9	181	16.7
1890*	196,621	36.1	27.7	4.4	2.2	0.5	2.0	1.3	3.4	3.8	198	17.5
1891..	198,775	36.3	26.0	3.4	2.2	0.5	2.2	1.1	3.7	3.0	194	18.1
1892..	200,833	35.8	24.6	4.6	1.9	0.6	2.0	1.2	2.6	2.9	186	16.7
Average 5 years.		36.2	25.6	4.3	2.1	0.5	2.3	1.2	3.1	2.7	189	16.8
1893..	203,015	34.7	24.1	4.2	1.9	0.6	2.0	1.4	2.6	2.3	211	16.2
1894..	205,220	34.3	21.1	3.3	1.8	0.6	2.0	1.1	1.9	2.3	174	17.1
1895..	207,449	35.9	25.6	5.0	1.9	0.6	2.0	1.3	2.6	2.7	229	17.4
1896*	209,703	35.6	23.1	4.2	1.5	0.6	2.3	1.4	2.2	2.7	200	18.1
1897..	211,981	35.2	23.9	5.6	1.8	0.6	2.1	1.3	2.4	2.1	219	18.6
Average 5 years.		35.1	23.6	4.5	1.8	0.6	2.1	1.3	2.3	2.4	207	17.5
1898..	214,284	34.9	22.8	4.2	1.8	0.8	2.2	1.2	2.2	2.2	213	18.6
1899..	216,612	34.1	23.9	4.4	1.8	0.6	2.3	1.4	2.5	2.7	211	18.7
1900..	218,965	33.3	25.3	4.1	1.8	0.6	2.4	1.7	3.2	2.8	208	17.3
1901..	221,212	29.2	21.7	4.2	1.8	0.7	1.9	1.5	2.3	1.9	205	17.9
1902*	222,233	34.0	19.3	2.7	1.7	0.7	2.0	1.5	2.2	2.1	157	18.4
Average 5 years.		33.1	22.6	3.9	1.8	0.7	2.2	1.5	2.5	2.3	199	18.2
1903..	223,260	32.6	19.4	2.9	1.8	0.7	1.9	1.4	2.1	1.9	168	18.1
1904..	224,299	32.4	21.4	4.4	2.0	0.6	1.8	1.7	2.2	1.9	193	21.5
1905..	225,327	31.8	17.7	2.6	1.5	0.6	1.7	1.6	1.8	1.8	148	17.8
1906..	226,367	31.2	19.1	3.3	1.7	0.8	1.7	1.5	2.0	1.8	162	18.6
1907..	227,413	30.6	18.5	2.2	1.7	0.7	1.7	1.6	2.1	2.3	140	17.9
Average 5 years.		31.7	19.2	3.1	1.7	0.7	1.8	1.6	2.0	1.9	162	18.8
1908*	228,463	31.2	18.7	3.2	1.6	0.7	1.6	1.4	1.9	1.7	153	15.5
1909..	229,519	29.5	19.0	2.5	1.5	0.8	1.7	1.4	2.3	2.3	141	15.6
1910..	230,579	28.6	16.2	1.8	1.4	0.9	1.6	1.4	1.8	1.7	131	16.0
1911..	231,641	27.4	17.4	2.5	1.6	0.9	1.3	1.3	1.8	1.8	154	..
1912..	232,726	26.8	17.2	2.2	1.5	1.0	1.4	1.5	2.1	2.0	130	..
Average 5 years.		28.7	17.7	2.4	1.5	0.9	1.5	1.4	2.0	1.9	142	..
1913*	233,849	27.0	16.3	1.9	1.4	1.0	1.4	1.8	1.8	1.7	139	..
1914	234,975	26.9	17.1	1.9	1.6	1.1	1.4	1.8	1.8	1.8	126	..
1915	219,979†	24.8	19.1	2.8	1.7	1.1	1.4	1.6	2.3	1.9	134	..
1916	214,229†	21.8	15.8	1.2	1.6	1.0	1.3	1.3	1.9	1.5	115	..

\* In the years 1879, 1884, 1890, 1896, 1902, 1908, and 1913, the facts are those registered in 53 instead of 52 weeks: corrections have therefore been made in calculating the rates. † Civil population.



**TABLE M. 15.**

DEATHS REGISTERED IN THE COUNTY BOROUGH OF SALFORD  
DURING THE YEAR 1916.

Age.	Males.	Females.
Under 1 year .....	341	246
1 to 2 years .....	102	84
2 to 3 „ .....	39	41
3 to 4 „ .....	28	29
4 to 5 „ .....	18	15
5 to 10 „ .....	45	50
10 to 15 „ .....	36	37
15 to 20 „ .....	37	56
20 to 25 „ .....	28	51
25 to 35 „ .....	77	97
35 to 45 „ .....	162	113
45 to 55 „ .....	197	158
55 to 65 „ .....	259	118
65 to 75 „ .....	271	245
75 to 85 „ .....	92	158
85 to 95 „ .....	17	32
Over 95 .....	2	..
	<b>1,751</b>	<b>1,630</b>

SECTION II.

INFECTIOUS DISEASES.



## SECTION II.

## INFECTIOUS DISEASES

The total number of cases of infectious disease notified to the Health Department, under the Infectious Diseases (Notification) Act, was 908, which is 718 less than in the previous year, and 968 less than the average for the preceding five years. This decrease is mainly due to the fall in the number of notifications from scarlet fever, which was 555 less than last year. There were 442 cases of scarlet fever, 204 of diphtheria, and 47 of enteric fever. Full details, for comparison of these figures with preceding years, will be found in Table No. I 2. In addition there were 2,065 notifications of measles, the notification of which disease was made compulsory by a General Order of the Local Government Board, which came into force on the 1st January, 1916. The death rate from the seven zymotics for the year was 1·2 per thousand, compared with 2·8 in 1915, 1·9 in 1914, 1·9 in 1913, and 2·2 in 1912. These figures include the deaths from diarrhœa and whooping cough, in addition to the notifiable diseases.

Particulars as to sickness from the non-notifiable infectious diseases cannot be given, but the particulars of mortality are as follows :—

Whooping Cough .....	35 deaths.
Diarrhœa .....	109 „
Influenza .....	33 „

This shows a decrease in the deaths from whooping cough, diarrhoea, and influenza when compared with the figures for 1915.

The highest number of cases notified in any one week was 195 (measles 180), which occurred in the 17th week of the year (April), and the lowest number was 8 in the 52nd week (December). In 1915 the highest number was 56 in the 2nd week, and the lowest 18 in the 45th week.

### Small Pox.

Eight cases of Small Pox occurred in the Borough during the year. The first case was reported on the 22nd January, the patient being a male, 32 years of age. The second case was notified on the 4th February. This patient was a woman, 38 years of age, who had been in contact with the first case. She declined to be vaccinated, but was kept under strict observation. The third case, notified on the 5th February, was a male, 38 years, the husband of the second case. He had also been in contact with the first case. The fourth case was notified on the 9th February. This was a youth, aged 18 years, and probably a contact with the first case, though it was impossible to trace definite contact. The fifth case was a married woman, 28 years of age, a contact of the fourth case. The sixth case was a married woman, aged 38 years: Source of infection not definitely traced. The seventh case was reported on the 7th March, the patient being a married woman, aged 31 years. Source of infection not definitely ascertained. The eighth case was a married woman, aged 38 years, and in this case again the source of infection was not definitely ascertained, though



there is every reason to assume that all the cases had a common source of infection.

All the cases were removed to Drinkwater Park Hospital, and, excepting the first case, all recovered. In three of the cases children from infected houses were in attendance at school up to the time of the discovery of the cases. It was thought desirable to recommend vaccination and/or re-vaccination of the children attending at these schools, and as a result 1,310 vaccinations were carried out.

The Department alone arranged for about 3,000 re-vaccinations, and no doubt the total number in the Borough greatly exceeded this figure. It is probably due to this fact that the outbreak, which at first promised to be exceedingly serious, was restricted within such narrow limits.

The Department is extremely grateful to the Public Vaccinators and the Vaccination Officers for their kindly co-operation.

### Scarlet Fever.

There were 442 cases of scarlet fever notified during 1916. This number is 555 less than that for the preceding year, and 760 below the average for the preceding five years. The attack rate is therefore 20·6 per 10,000 of the population, as compared with 45·3 for the preceding year.

There were 22 deaths, giving a mortality rate of 5·0 per cent of the cases or 1·0 per 10,000 of the population. The cases were spread over the whole year, being most numerous in the month of January, when there

were 51 notifications, and fewest in December, when there were 14 notifications. Three hundred and forty-eight cases, or 78·7 per cent of the total, were removed to Ladywell Sanatorium.

### Diphtheria.

Two hundred and four cases of diphtheria were notified during 1916, compared with 236 in 1915, and 308 the average for the preceding five years. The attack rate is therefore 9·5 per 10,000 of the population, as compared with 10·7 for the preceding year. There were 17 deaths registered from diphtheria, giving a death rate of 8·3 per cent of those attacked, compared with a death rate of 12·3 per cent in 1915, an average for the preceding five years of 11·8 per cent, and also a death rate of 0·8 per 10,000 of the population.

The cases were spread over the whole year, the number ranging from 32 in January to 10 in December. With regard to age, 163 cases, or 80 per cent, were children under 15 years of age, and 73 cases, or 36 per cent, were children under five years of age, the mortality amongst the latter class being very heavy, the deaths reaching the large proportion of 17 per cent of the cases. During the year 87 specimens were forwarded to Professor Delepine for bacteriological examination.

Comparing Salford with England and Wales, the 96 Great Towns, and London, the mortality rates per 10,000 living were as follows:—

England and Wales . . . . .	1·4
96 Great Towns . . . . .	1·5
London . . . . .	1·4
Salford . . . . .	0·8

### Enteric or Typhoid Fever.

There were 47 cases of enteric fever notified during 1916, which is a decrease of 37 when compared with 1915, and a decrease of 42 on the average of the preceding five years. This gives an attack rate for the Borough of 2·2 per 10,000 persons living, as compared with 3·8 for the preceding year. There were 12 deaths, giving a mortality rate of 25·5 per cent of the cases, or 0·6 per 10,000 of the population.

Forty-one cases were removed to the Sanatorium, or 87 per cent of the total cases, as compared with 82 per cent in 1915, 78 per cent in 1914, 79 per cent in 1913, and 64 per cent in 1912.

### Puerperal Fever.

There were 13 cases of this disease notified during the year. There were 5,091 births during the year, so that the attack rate was 0·3 per cent. Of these cases two died, giving a mortality rate of 15·4 per cent of the cases. In all there were three deaths from this disease, one occurring outside the Borough.

### Erysipelas.

There were 124 cases of erysipelas during the year 1916, as against 172 in 1915, 248 in 1914, 203 in 1913, 181 in 1912, 217 in 1911, 129 in 1910, and 182 in 1909.

### Measles.

There were 68 deaths from measles during the year, giving a death rate of 3 per 10,000 living, the rates for



the preceding five years being 1911, 4 ; 1912, 11 ; 1913, 6 ; 1914, 5 ; and 1915, 12.

### **Visitation of Measles.**

The visitation of measles cases commenced in April, 1916, when two Nurses were appointed by the Health Committee. At that time they were unable to cope adequately with the notifications which were then being received. A considerable number, however, were visited, and the importance of careful nursing was explained to the parents, with, it is felt, great benefit to the patients.

One of the Nurses was called up for service with the Territorial Nursing Service in May, and assistance was then given by the Lady Sanitary Inspector. The number of cases gradually declined, and it was decided that the Lady Inspector could cope with the current cases. The remaining Nurse was therefore transferred to the Maternity and Child Welfare Staff.

With the visitation of these cases a great improvement has been noticed in connection with the attitude of the parents towards this disease. They are more and more beginning to understand the importance of careful nursing and isolation, and whereas formerly children suffering from measles received little or no attention, and were allowed to come in contact with other children, and even allowed outside the house, mothers are beginning to realise the seriousness of the complaint. It is hoped that in the current year further improvement may be noticed.

### **Whooping Cough.**

There were 35 deaths from whooping cough during the year, all except one of which occurred among children under five years of age. The death rate for the Borough was 1·6 per 10,000 persons living, as compared with 2 for 1915, and 3 the average for the past five years. The death rate for England and Wales was 1·6 per 10,000, and the average for the 96 great towns was 2·1.

### **Diarrhœa.**

The death rate from diarrhœa was 5 per 10,000 living, as compared with 10 last year, 8 in 1914, 8 in 1913, 4 in 1912, and 15 in 1911.

### **Epidemic Influenza.**

Thirty-three deaths were returned as directly due to this cause.

### **Cerebro-Spinal Meningitis.**

Nine notifications of this disease were received during the year. Five of the cases proved fatal. The total number of deaths from this disease was six, one death occurring outside the Borough.

### **Acute Poliomyelitis.**

One case of this disease were reported during the year.

### **Anthrax and Glanders.**

No cases of Anthrax or Glanders were notified during the year.



### **Ophthalmia Neonatorum.**

Sixty cases of Ophthalmia Neonatorum were reported during 1916, as compared with 97 notified in the previous year. This is further dealt with in Part VI.

### **Tuberculosis.**

#### *Tuberculosis Dispensary.*

Owing to the depletion for war service, the staff now consists of a Consulting Medical Officer, an Assistant Medical Officer, three Lady Health Visitors, and two Clerks.

An analysis of the work done during the past year follows :—

	Insurance Committee's Cases.			Others.			Total.	
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.
New Cases Examined--								
(a) Diagnosed as Tuberculous .....	162	122	284	29	79	108	191	201
(b) Diagnosed as Non-tuberculous .....	31	19	50	113	181	294	144	200
(c) Taken under Observation .....	53	53	106	135	193	328	188	246
Cases Re-examined--								
(a) Diagnosed as Tuberculous (Old Cases) .....	213	141	354	77	190	267	290	331
(b) Diagnosed as Tuberculous (formerly under Observation) .....	4	5	9	5	17	22	9	22
(c) Diagnosed as Non-tuberculous .....	20	29	49	246	267	513	266	296
(d) For further Observation .....	39	48	87	450	576	1026	489	624
Cases Sent by Medical Practitioners .....	95	61	156	19	33	52	114	94
Cases Discharged--								
(a) From Treatment .....	5	7	12	4	1	5	9	8
(b) From Observation .....	..	..	..	3	5	8	3	5
Cases Died .....	8	9	17	..	..	..	8	9
Contacts Examined--								
Positive .....	..	..	..	3	11	14	3	11
Negative .....	..	..	..	31	70	101	31	70
Taken under Observation .....	..	..	..	13	45	58	13	45
Contacts Examined (School Children)--								
Positive .....	..	..	..	2	..	2	2	..
Negative .....	..	..	..	74	72	146	74	72
Taken under Observation .....	..	..	..	23	19	42	23	19
No. of Attendances .....	3154	2752	5906	1976	3837	6613	2130	6589
Tuberculin administered .....	418	602	1020	98	307	405	516	909
Reports to Insurance Committee--								
New Cases .....	174	123	297	..	..	..	174	123
Reconsidered Cases .....	180	134	314	..	..	..	180	134
Cases Returned from Sanatorium and taken under Observation .....	25	16	41	..	3	3	25	19
Cases Returned from Drinkwater Park and taken under Observation .....	60	39	99	12	28	40	72	67
Cases under treatment on 31st December, 1916 .....	..	..	626	..	..	997	..	..
Cases under observation on 31st December, 1916 .....	..	..	986	..	..	1580	..	..
Samples of Sputum Examined--								
Dispensary Cases .....		287			48			333
General Practitioner's Cases .....		139			55			194
Nurses' Visits to Homes of Patients : 4,987.								

During the year 1916 the Medical Officers notified 157 cases, of which 16 were contacts (10·1 per cent). The number of contacts examined at the Dispensary was 363, and of these 16 were notified (4·4 per cent).

Out of the 1,170 new cases examined 146 were notified, *i.e.*, 12·5 per cent. It is a very encouraging feature that out of the 1,170 new cases 208, or 17·7 per cent, were sent for diagnosis by the medical practitioners of the Borough.

The diminished number of attendances at the Dispensary is accounted for by the absence on military duties of a large proportion of the young adult male population, also that milder cases and cases under observation are so occupied at munitions and other work that they have no time to attend at the Dispensary.

Tuberculin has been used in treating suitable cases, and was administered 1,425 times.

There were during the year 337 deaths from phthisis, and 102 deaths from other tubercular diseases, giving a mortality rate of 16 and 5 respectively per 10,000 of the population.

Nine hundred and thirty-three cases were notified during the year as compared with 1,023 during last year. Of the 933 notifications, 745 were new cases and 188 were re-notifications of cases already on the books.

Of the new cases, 347 were notified by General Practitioners, 335 by Medical Officers of Hospitals and Dispensaries, and 63 by Poor Law Medical Officers.

The mean age at death of patients dying during the year from pulmonary phthisis was :—Males, 36 years ;



females, 30 years. From tuberculosis, other than pulmonary phthisis :—Males, 7 years ; females, 10 years.

From Table A the age and sex distribution of cases and deaths among those notified is readily seen.

Table B gives the occupation of the cases notified so far as could be ascertained.

TABLE A.  
AGE AND SEX DISTRIBUTION OF CASES OF PHTHISIS NOTIFIED  
DURING THE YEAR 1916.

	Males.		Females.		Totals.	
	No.	Deaths	No.	Deaths	No.	Deaths
Under 10 years ..	80	18	51	3	131	21
10 to 20 „ ..	74	10	83	18	157	28
20 to 30 „ ..	50	9	86	13	136	22
30 to 40 „ ..	73	14	87	16	160	30
40 to 50 „ ..	53	15	37	8	90	23
50 to 60 „ ..	34	16	13	3	47	19
Over 60 „ ..	19	7	5	2	24	9
TOTALS .....	383	89	362	63	745	152

TABLE B.  
OCCUPATIONS OF THE 745 CASES NOTIFIED.

MALES.

OUTDOOR WORKERS.

1. Building Trades.....	12	6. Railway Workers .....	3
2. Carters, Coachmen,		7. Seamen .....	2
Hawkers, & Car Drivers	23	8. Messengers .....	3
3. Labourers and Navvies..	46	9. Other Outdoor Workers.	7
4. Travellers .....	3		
5. Stonemasons .....	2		
		Total .....	101



1. Employees in Cotton Mills .....	5	12. Packers .....	8
2. Colliers .....	3	13. Munition Workers .....	6
3. Hairdressers .....	1	14. Printers .....	4
4. Clerks and Warehousemen .....	33	15. Mechanics and Engineers	12
5. Butchers .....	2	16. Firemen .....	4
6. Joiners and Woodworkers	4	17. Shopkeepers & Assistants	10
7. Machinists .....	3	18. Bakers .....	2
8. Metal Workers .....	17	19. Children under 5 .....	26
9. Tailors .....	4	20. Scholars .....	92
10. Labourers .....	7	21. No Occupation stated ..	15
11. Bleachers and Dyers .....	2	22. Other Occupations .....	22
		Total .....	282

1. Laundresses .....	3	11. Packers .....	4
2. Mill Hands } Workers in {	16	12. Metal Workers .....	3
3. Weavers .. } Textile {	8	13. Shop Assistants .....	5
4. Housewives.....	120	14. Waste Sorters .....	8
5. Charwomen.....	11	15. Children under 5 .....	12
6. Makers of Wearing		16. Scholars .....	79
Apparel .....	36	17. Other Occupations.....	22
7. Clerks .....	1	18. No Occupation stated ..	12
8. Printers .....	7		
9. Waitresses .....	7		
10. Servants .....	8		
		Total.....	362

INSPECTOR'S REPORT ON THE DURATION OF THE DISEASE IN CASES  
VISITED AT THE TIME OF NOTIFICATION.

When Notified.	
Under six months .....	290
Over 6 months to 1 year.....	84
„ 1 year to 18 months.....	76
„ 18 months to 2 years .....	13
„ 2 years to 3 years .....	38
„ 3 years .....	64
No Time Stated .....	163
	728

The following particulars were obtained from the various medical practitioners, who had notified cases, 17 in number, that were not to be visited by the officials of this Department during the past 12 months:—

No longer under the Doctor's care.....	6
Improving .....	7
Dead.....	2
Removed from Salford .....	2
	—
	17

The following are the particulars of the cases sent to Delamere, with a statement as to their present condition:—

Year.	Cases sent.	Died within						Total deaths.	Re-moved or lost sight of.	Now unsatisfactory.	Now in good condition.
		1 year	2 years	3 years	4 years	5 years	6 years				
1908..	16	3	1	1	..	..	..	5	3	2	6
1909..	13	2	..	..	..	..	..	2	5	..	6
1910..	14	2	1	1	1	1	1	7	3	..	4
1911..	20	4	..	1	1	2	..	8	2	2	8
1912..	26	4	1	1	1	..	..	7	9	2	8
1913..	63	7	4	2	..	..	..	13	15	5	30
1914..	57	5	2	..	..	..	..	7	9	7	34
1915..	49	4	..	..	..	..	..	4	6	10	29
1916..	51	..	..	..	..	..	..	..	5	3	29
Totals	309	31	9	6	3	3	1	53	57	31	154

Fourteen patients were in Delamere at the end of the year.

From the preceding Table it is seen that out of 152 cases sent to Delamere in the years 1908, 1909, 1910, 1911, 1912, and 1913, 42 have died, 37 have been lost sight of, but were in good health when we last heard of them, and 62 now remain in a healthy condition.

This must be considered fairly satisfactory, as from three to eight years after treatment had been concluded, forty-one per cent of the cases (excluding removals) appear to be "cured," being in good health and following their ordinary employment.

During the year 1916, 287 notifications of non-pulmonary tuberculosis have been received. Forty-six of these are re-notifications of cases already on the books, and 241 are new cases.

The new cases notified are classified in the following table :—

	Glands.	Bones.	Abdo- men.	Skin.	Other forms.	Totals.
Under 10 years .....	42	18	33	8	25	126
10 to 20 years .....	37	20	9	6	3	75
20 „ 30 „ .....	5	7	2	3	2	19
30 „ 40 „ .....	1	6	..	..	3	10
Over 40 „ .....	2	3	..	3	3	11
Totals .....	87	54	44	20	36	241



CASES TREATED AT THE CROSSLEY SANATORIUM, DELAMERE, YEAR  
ENDING 31ST DECEMBER, 1916.

DURATION OF TREATMENT.	INSURED PERSONS.			NON-INSURED PERSONS.		
	Male.	Female	Total.	Male.	Female.	Total.
Under 2 months.....	3	2	5	..	1	1
2—3 months .....	4	1	5	2	2	4
3—4 „ .....	6	9	15	..	2	2
4—5 „ .....	3	5	8	..	2	2
5—6 „ .....	4	1	5	..	1	1
Over 6 „ .....	1	4	5	..	..	..
In at end of the year .	5	6	11	..	3	3
TOTALS .....	26	28	54	2	11	13

Report of the Drinkwater Park Sanatorium for  
the Year ending 31st December, 1916.

BY H. OSBORNE, M.D., MEDICAL SUPERINTENDENT.

The Sanatorium was first opened for patients suffering from Tuberculosis on February 13th, 1913, with accommodation for 18 males and 15 females. This has since been increased by the addition of 17 beds.

The staff consists of a Resident Medical Officer, Matron, four Nurses, Cook, two Kitchen-maids, two House-maids, 2 Ward-maids, Porter, Gardener, and Shepherd.



### GENERAL LINE OF TREATMENT ADOPTED.

Cases before admission are examined at the Tuberculosis Dispensary, and as far as possible only those cases which appear to have a reasonable chance of recovery are admitted. In addition, soldiers discharged from the army on account of tuberculosis have been received direct from various Military Hospitals.

The average stay in Hospital was about seven weeks, experience having proved to us that this is sufficiently long for the purpose of education and commencement of treatment. Education, indeed, is looked upon as the most important part of the treatment.

Whilst in hospital, the patients, by means of lectures and demonstrations, are taught how to deal with their sputum, and also how to order their lives under home conditions in a manner which will involve a maximum of benefit to themselves and a minimum of danger to others.

When discharged from Hospital, patients continue treatment at the Tuberculosis Dispensary, and, as the majority of them resume work, the Dispensary is opened in the evenings for tuberculin injections.

The Hospital was open on 245 days only for the treatment of Tuberculosis. During the remaining period of the year (from the 23rd January to 24th May) the Hospital was required for the isolation of a number of Small Pox cases, together with a number of contacts.

The total number of Tuberculous patients admitted during the year 1916 was 217. Of these, 5 were re-admitted when the Hospital was re-opened for Tuberculosis on May 24th. Thus the total admissions for the year were 222.

The total number of discharges was 233. The total number of "Patient-Days" was 9,430, which gives an average of practically 38·5 patients per day during the period the hospital was open. The accompanying table sets forth the above figures in detail:—

TABLE A.  
SHOWING THE NUMBER OF ADMISSIONS, ETC., AND THE NUMBER OF "PATIENT-DAYS" FOR 1916.

	Insured Persons.			Uninsured Persons. (Over 16 years of age).			Children under 16.			Totals.		
	Males	Females	Both	Males	Females	Both	Males	Females	Both	Males	Females	Both
Number of persons admitted during the year 1916 .....	105	60	165	3	24	27	13	12	25	121	96	217
Number of persons re-admitted during the year 1916 after closure of Hospital for smallpox..	2	3	5	..	..	..	..	..	..	2	3	5
Total number of admissions during 1916 .....	107	63	170	3	24	27	13	12	25	123	99	222
Total number of discharges during 1916 .....	113	62	175	5	24	29	16	13	29	134	99	233
Number of persons admitted in 1915 who remained in Hospital for some part of 1916 ....	17	4	21	2	2	4	3	3	6	22	9	31
Number of "Patient-days" for persons admitted during 1916 .....	4234	2572	6806	48	981	1029	545	445	990	4827	3998	8825
Number of "Patient-days" (in 1916) for persons admitted in 1915 who remained in Hospital for some part of 1916 ....	335	71	406	46	38	84	54	61	115	435	170	605
Total number of "Patient-days" for 1916 .....	4569	2643	7212	94	1019	1113	599	506	1105	5262	4168	9430
Average number of Patients in Hospital each day during 1916 (hospital was open for 245 days)...	18.7	10.8	29.5	0.4	4.1	4.5	2.4	2.1	4.5	21.5	17.0	38.5

NOTE.—The term "patient-days" represents the product of the number of patients and the number of days spent by these patients in the Hospital.



### Tuberculin Treatment.

The technique observed was described in last year's report. Tuberculin treatment has again been carried out, but in a smaller number of cases than in the previous year. Owing to the demands of the army and munition works and other essential industries, there has been a lack of cases suitable for the administration of tuberculin. Patients with slight or comparatively inactive tubercular lesions have, generally speaking, preferred to avail themselves of the exceptional demand for labour rather than give up the few weeks for hospital treatment. Consequently, the proportion of relatively advanced cases dealt with has been larger than previously.

In some of these more advanced cases it has been possible, by means of fresh air, feeding, first rest then increasing exercise, to sufficiently increase the patient's resistance to enable him to return to his former laborious occupation, and so render useful service to his country.

Several patients suffering from chronic disease, and who made good progress in hospital, decided to give up their more recent occupation at the docks or iron works and return to agricultural work, a knowledge of which they had acquired earlier in life.

DISCHARGED SOLDIERS.—A considerable proportion of male patients admitted during the year have been soldiers discharged from the army on account of tuberculosis. Some of these men have been sent direct from Military Hospitals, whilst others have first received attention at Regent Road Tuberculosis Dispensary or at the hand of the family doctor. A considerable number have



been suffering from extensive and active disease—"stretcher cases."

On the other hand, there were several cases in which physical signs of lung disease were very indefinite, though neurasthenic symptoms were pronounced and nerve sedatives and tonics were required. Some of the discharged soldiers had, before the war, been treated for tuberculosis in this or other institutions, but others (even advanced cases) had apparently contracted the disease whilst on active service.

WEIGHT GAINED.—The great majority of the patients gained considerably in weight during their stay in the Hospital, some of them putting on nearly two stones in weight. But, as one might expect, certain of the bed-ridden cases suffering from extensive and active disease lost in weight.

### Measures taken to Prevent the Spread of Infectious Disease.

ISOLATION.—Out of the total 908 cases of infectious disease notified during the year, 628, or 69 per cent, were removed to the Ladywell Sanatorium and there isolated. The cases of Small Pox were isolated at the Drinkwater Park Hospital.

DISINFECTION.—All infected bedding has been stoved in the steam disinfectors.

BACTERIOLOGY.—161 specimens in suspected cases of enteric fever, diphtheria, and phthisis have been sent to

Professor Delepine, of the Owens College, for examination, and the following is the result of the work done during the year 1916:—

ENTERIC FEVER.—30 examinations made, positive reactions obtained 6, or 20·0 per cent.

DIPHTHERIA.—87 examinations made, and the specific bacilli were found in 21 cases, or 24·1 per cent.

PHTHISIS.—44 tests were made, and tubercle bacilli were found in 7 cases, or 15·9 per cent.

Five hundred and twenty-seven examinations of Sputum were carried out at the Tuberculosis Dispensary.

LIBRARY BOOKS from infected homes are either disinfected or retained for the use of the patients in the hospital

TABLE 1. 1.  
CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1916.

NOTIFIABLE DISEASES.	Cases notified in Whole District.							Total Cases notified in each Ward.												Cases removed to Hospital.					
	At All Ages.	At Ages—Years.						Kersal.	Albert Park.	Grosvenor.	St. Matthias.	Trinity.	Crescent.	Islington.	Regent.	Ordall.	Trafford.	Charlestown.	St. Thomas.		St. Paul's.	Seedley.	Waste.	Hope.	
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.																		65 and upwards.
Measles .....	2065	108	927	950	47	31	2	..	121	69	68	17	13	87	23	91	82	45	342	133	178	296	139	361	7
Small-pox .....	8	..	..	..	1	7	..	..	..	1	3	..	..	..	1	..	..	..	1	..	1	..	1	..	8
Diphtheria (including Membranous croup)	204	5	68	90	24	16	1	..	17	26	8	4	5	8	7	7	20	22	3	10	14	23	12	18	190
Erysipelas.....	124	..	1	9	14	46	39	15	7	8	9	3	3	7	4	12	10	5	2	9	14	8	9	14	21
Scarlet fever .....	442	6	126	255	34	19	2	..	27	23	20	11	11	13	12	26	11	49	36	18	23	44	14	104	348
Typhus fever .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric fever .....	47	..	2	13	12	15	5	..	1	1	..	..	1	4	8	3	8	1	1	3	3	3	..	10	41
Continued fever .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Relapsing fever .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal fever .....	13	..	..	..	3	10	..	..	2	..	1	..	1	..	..	..	..	..	1	2	..	4	..	2	12
Plague .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cerebro-Spinal Meningitis .....	9	..	3	4	2	..	..	..	1	..	..	..	..	..	1	1	..	1	2	..	..	2	1	..	8
Acute-Poliomyelitis..	1	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Anthrax .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glanders .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ophthalmia Neonatorum .....	60	60	..	..	..	..	..	..	3	3	1	9	5	4	2	6	5	7	2	2	3	2	3	3	..
Pulmonary tuberculosis .....	745	6	33	186	127	279	107	7	41	53	48	38	63	49	65	33	71	29	44	22	49	60	35	45	307
Other forms of tuberculosis .....	241	8	55	119	34	18	5	2	12	10	17	13	10	18	18	12	20	12	16	17	13	21	11	21	31
Totals .....	3959	194	1215	1626	298	441	161	24	233	193	173	98	112	190	141	191	227	171	450	216	298	463	225	578	973



TABLE 1. 2.

SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASE NOTIFIED TO THE HEALTH  
DEPARTMENT DURING THE YEARS 1883 TO 1916.

Year.	Small Pox.	Scarlet Fever.	Diphtheria.	Fever.				Erysipelas.	Cholera.	Plague.	Anthrax.	Glanders.	Cerebro Spinal Meningitis.	Acute Polio-myelitis.	Ophthalmia Neonatorum.	Measles.	Tuber- culosis.		Total
				Enteric.	Typhus.	Con- tinued.	Relapsing.	Puerperal.									Pul- monary.	Non-Pul- monary.	
1883.....	6	805	81	293	14	..	..	21	..	..	..	..	..	..	..	..	..	..	1220
1884.....	5	1154	99	422	35	..	..	14	..	..	..	..	..	..	..	..	..	..	1729
1885.....	11	632	54	205	32	..	..	15	..	..	..	..	..	..	..	..	..	..	949
1886.....	..	1536	41	288	5	..	..	12	..	..	..	..	..	..	..	..	..	..	1882
1887.....	4	1427	83	368	7	..	..	11	..	..	..	..	..	..	..	..	..	..	1900
Average 5 years ..	5	1111	72	315	19	..	..	15	..	..	..	..	..	..	..	..	..	..	1537
1888.....	52	1128	175	572	31	..	..	26	..	..	..	..	..	..	..	..	..	..	1984
1889.....	..	1283	691	485	3	..	..	14	..	..	..	..	..	..	..	..	..	..	2476
1890.....	..	985	704	383	6	4	..	22	76	..	..	..	..	..	..	..	..	..	2180
1891.....	..	483	231	377	1	6	..	13	53	..	..	..	..	..	..	..	..	..	1164
1892.....	7	865	231	347	5	5	..	26	86	..	..	..	..	..	..	..	..	..	1572
Average 5 years ..	12	948	406	433	9	3	..	20	43	..	..	..	..	..	..	..	..	..	1874
1893.....	168	865	261	563	5	12	..	30	147	..	..	..	..	..	..	..	..	..	2051
1894.....	35	1043	242	316	1	14	..	21	130	..	..	..	..	..	..	..	..	..	1802
1895.....	4	1167	194	382	..	11	..	19	111	..	..	..	..	..	..	..	..	..	1888
1896.....	2	1579	158	291	7	12	..	24	114	..	..	..	..	..	..	..	..	..	2187
1897.....	..	714	103	291	..	14	..	13	121	..	..	..	..	..	..	..	..	..	1256
Average 5 years ..	42	1074	192	369	3	13	..	21	125	..	..	..	..	..	..	..	..	..	1836



TABLE I. 2.—continued.

Year.	Small Pox.	Scarlet Fever.	Diphtheria.	Fever.					Erysipelas.	Cholera.	Plague.	Anthrax.	Glanders.	Cerebro Spinal Meningitis.	Acute Poliomylitis.	Ophthalmia Neonatorum.	Measles.	Tuber- culosis.		Total.
				Enteric.	Typhus.	Con- tinued.	Relapsing.	Puerperal.										Pul- monary.	Non-Pul- monary.	
1898.....	..	659	97	367	16	14	..	31	146	..	..	..	..	..	..	..	..	..	..	1330
1899.....	..	723	184	273	3	20	..	26	153	..	..	..	..	..	..	..	..	..	..	1382
1900.....	6	1317	309	335	2	8	..	21	179	..	..	..	..	..	..	..	..	..	..	2177
1901.....	..	1320	420	317	1	8	..	33	230	..	..	..	..	..	..	..	..	..	..	2329
1902.....	23	780	292	207	43	6	..	16	164	..	..	..	..	..	..	..	..	..	..	1531
Average 5 years ..	6	960	260	300	13	11	..	25	174	..	..	..	..	..	..	..	..	..	..	1750
1903.....	175	737	335	178	..	1	..	13	161	..	..	..	..	..	..	..	..	..	..	1600
1904.....	57	1043	422	202	10	7	..	21	168	..	..	..	..	..	..	..	..	..	..	1930
1905.....	3	960	363	142	..	7	..	26	176	..	..	..	..	..	..	..	..	..	..	1677
1906.....	..	904	432	225	..	1	..	21	142	..	..	..	..	..	..	..	..	..	..	1725
1907.....	8	1044	384	92	..	5	..	23	136	..	..	..	..	..	..	..	356	..	..	2048
Average 5 years ..	49	938	387	168	2	4	..	21	157	..	..	..	..	..	..	..	..	..	..	1796
1908.....	..	1341	629	181	..	7	..	27	127	..	..	..	..	..	..	..	..	563	..	2875
1909.....	..	1577	562	138	..	2	..	26	182	..	..	..	..	..	..	..	..	581	..	3068
1910.....	..	909	333	113	..	..	..	24	129	..	..	..	..	..	..	..	..	651	..	2159
1911.....	..	911	375	108	..	1	..	24	217	..	..	..	..	..	..	..	..	714	..	2350
1912.....	..	541	242	76	..	7	..	26	181	..	..	..	..	1	29	..	..	1073	..	2206
Average 5 years ..	..	1056	428	123	..	3	..	25	167	..	..	..	..	..	..	..	..	716	..	2532
1913.....	4	1224	336	113	..	1	..	17	203	..	..	3	..	4	2	..	..	1206	503	3616
1914.....	1	2336	352	63	..	..	..	20	248	..	..	1	..	3	5	80	..	1126	236	4471
1915.....	1	997	236	84	..	..	..	23	172	..	..	..	..	9	7	97	..	816	195	2637
1916.....	8	442	204	47	..	..	..	13	124	..	..	..	..	9	1	60	2065	745	241	3959

TABLE I. 4.  
SALFORD CASES TREATED IN THE CORPORATION HOSPITALS.

	1907		1908		1909		1910		1911		1912		1913		1914		1915		1916	
	Cases Admitted.	Deaths.	Cases Admitted.	Deaths.	Cases Admitted.	Deaths.	Cases Admitted.	Deaths.	Cases Admitted.	Deaths.	Cases Admitted.	Deaths.	Cases Admitted.	Deaths.	Cases Admitted.	Deaths.	Cases Admitted.	Deaths.	Cases Admitted.	Deaths.
Small Pox . . . . .	8	..	..	..	..	..	..	..	..	..	..	..	4	..	..	..	1	..	8	1
Scarlet Fever...	818	50	1040	62	1195	70	706	20	773	17	412	9	1004	25	2068	67	840	29	354	21
Diphtheria . . . .	269	44	378	88	450	86	249	31	149	41	114	15	170	19	139	25	124	20	105	15
Typhus Fever...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Typhoid Fever .	61	20	119	34	97	27	95	20	86	10	59	12	68	17	33	5	50	9	23	8
Continued Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever.	13	4	15	8	14	3	9	3	10	1	17	3	10	3	13	2	18	3	12	4
Erysipelas.....	30	4	24	1	31	6	26	2	37	3	27	3	20	1	35	4	22	3	16	2
*Ill-defined or all other Diseases .	81	10	176	9	30	..	24	..	250	21	147	11	153	16	181	16	141	13	124	9
<b>Total . . . . .</b>	<b>1280</b>	<b>132</b>	<b>1752</b>	<b>202</b>	<b>1817</b>	<b>192</b>	<b>1109</b>	<b>76</b>	<b>1305</b>	<b>93</b>	<b>776</b>	<b>53</b>	<b>1429</b>	<b>81</b>	<b>2409</b>	<b>119</b>	<b>1196</b>	<b>77</b>	<b>642</b>	<b>60</b>

\* The Ill-defined cases include the Nursing Staff who may have been ill.

TABLE 1. 5.  
CASES FROM OUT-DISTRICTS TREATED IN THE CORPORATION HOSPITALS.

	1907		1908		1909		1910		1911		1912		1913		1914		1915		1916	
	Cases Admitted.	Deaths.	Cases Admitted.	Deaths.	Cases Admitted.	Deaths.	Cases Admitted.	Deaths.	Cases Admitted.	Deaths.	Cases Admitted.	Deaths.	Cases Admitted.	Deaths.	Cases Admitted.	Deaths.	Cases Admitted.	Deaths.	Cases Admitted.	Deaths.
Small Pox . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..
Scarlet Fever . . . . .	180	10	196	9	298	16	269	18	224	2	146	1	122	4	360	8	242	8	191	6
Diphtheria . . . . .	44	7	45	6	70	11	82	19	41	10	25	2	36	7	39	5	56	8	88	23
Typhus Fever . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Typhoid Fever . . . . .	38	4	33	10	44	11	150	24	66	7	16	3	30	9	24	6	37	9	23	5
Continued Fever . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever. . . . .	2	1	2	..	3	1	2	1	3	1	4	2	1	..	3	..	3	2	3	1
Erysipelas . . . . .	6	..	4	..	5	..	4	1	5	..	6	1	3	1	4	2	7	..	12	..
Ill-defined . . . . .	11	2	5	..	11	..	8	1	34	..	22	2	5	1	19	..	28	3	32	4
Total . . . . .	281	24	285	25	431	39	515	64	373	20	219	11	197	22	449	21	373	30	351	39



# LADYWELL SANATORIUM.

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## MEDICAL SUPERINTENDENT'S REPORT FOR THE YEAR ENDED DECEMBER 31ST, 1916.

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LADYWELL SANATORIUM,

*February 28th, 1917.*

GENTLEMEN,—

I have the honour to lay before you the record of the work done at Ladywell Sanatorium during the year ended December 31st, 1916.

On this occasion the record is a brief one, and contains only essential facts. All tables and charts which, in former records gave detailed particulars, are, in response to the expressed desire of the Local Government Board, acting in the interests of economy, omitted.

During the year ended December 31st, 1916, 1,084 cases were treated, as compared with 1,751 in 1915, and with 1,887·6, the average of the numbers treated in the five (5) years ended December 31st, 1916. The cases treated were 612 of scarlet fever, 3 of measles, 50 of enteric fever, 214 of diphtheria, 31 of erysipelas, 16 of puerperal fever, and 158 of "other diseases." Three hundred and seventy-two (372) of the cases treated were from "out districts," as compared with 418 in 1915.

Nine hundred and eighty-three cases were admitted, as compared with 1,568 in 1915, and with 1,703·4, the average of the numbers admitted in the five (5) years



ended December 31st, 1915. The cases admitted were 545 of scarlet fever, 3 of measles, 46 of enteric fever, 193 of diphtheria, 28 of erysipelas, 15 of puerperal fever, and 153 of "other diseases." Three hundred and forty-nine (349) of the cases admitted were from "out districts," as compared with 373 in 1915.

Nine hundred and forty-four (944) cases were discharged, namely, 564 of scarlet fever, 2 of measles, 32 of enteric fever, 167 of diphtheria, 28 of erysipelas, 10 of puerperal fever, and 141 of "other diseases."

Ninety-eight (98) of the cases treated proved fatal, namely, 27 of scarlet fever, 13 of enteric fever, 38 of diphtheria, 2 of erysipelas, 5 of puerperal fever, and 13 of "other diseases."

There were remaining in Hospital on December 31st, 1916, 42 cases, as compared with 101 on the corresponding date in 1915, and with 141.6, the average of the number on the corresponding date in the five (5) years ended December 31st, 1916. The cases remaining in Hospital were 21 of scarlet fever, 1 of measles, 5 of enteric fever, 9 of diphtheria, 1 of erysipelas, 1 of puerperal fever, and 4 of "other diseases."

Grouped under the heading "Other Diseases," cases of the following diseases were admitted:—Abscess (1), abortion (2), adenitis (1), appendicitis (1), asthenia (1), bronchitis (3), broncho-pneumonia (2), bursitis (1), cardiac disease (1), cellulitis (1), constipation (1), dysentery-amœbic (1), eczema (1), encephalitis (1), "febricula" (1), ill-defined (2), influenza (3), laryngismus stridulous (1), malaria (1), meningitis-meningococcal (6), meningitis-

pneumococca (2), meningitis-tubercular (3), nephritis (2), nil (8), neuralgia (1), oidium albicans (1), painful ears (1), paratyphoid (1), pericarditis (1), periostitis (1), peritonitis-tubercular (1), pharyngitis (13), phthisis (1), pleurisy (1), pneumonia (6), rheumatism (1), rickets (1), rubella (6), septicaemia (1), synovitis (1), syphilis (1), simple sore throat (7), tonsillitis (58), varicella (1), vincent's angina (1).

The daily average number of cases in Hospital in the year ended December 31st, 1916, was 84·6, as compared with 140·9 in 1915, and with 141·8, the average of the five (5) years ended December 31st, 1916.

Were it not for the fact that four members of the Nursing Staff contracted enteric fever, I would have been able to report that the health of your Staff had been excellent. Apart from this, a high standard of general health did obtain during the year. One member of the Nursing and one of the Domestic Staff contracted scarlatina, and one Nurse suffered from diphtheria. All the persons affected made excellent recoveries.

In order to provide the maximum protection to the members of the Nursing Staff against enteric fever, it has been arranged that in future no member of that Staff will be allowed to take up duty in the enteric fever wards until she has been inoculated with anti-typhoid and paratyphoid vaccine.

On December 31st, 1916, the following members of the Staff were serving with His Majesty's Forces: Sisters Heggie and Raynor; Medical Superintendent's Clerk, Harry Wilkinson; Porter A. Chance, Driver William Lowe, and Head Gardener James Townes.



It was with very deep regret that, in the early part of the year, I was obliged to report the death in action, whilst serving with His Majesty's Forces in Mesopotamia, of the late Resident Medical Officer, Captain R. W. Duncan, R.A.M.C. Though Captain Duncan had held the appointment under the Health Committee but a few months, he had, by his earnest devotion to duty and by his simple kindliness of disposition, gained a well-earned popularity with all in whom he came in contact. By these traits he had endeared himself to his patients, more especially the children, and had gained the respect, esteem, and confidence of myself and every member of the Staff.

In the Bacteriological Laboratory, under the care of Dr. Fleming, Assistant Medical Officer, 1,218 examinations of pathological products have been made during the year. This number is made up as follows :—

Cultures from Throat .....	990
Cultures from Other Pathological Discharges .....	161
Cultures from Blood .....	49
Cultures from Cerebro-Spinal Fluid .....	18
	<hr/>
	1218

Thirty-eight cases of laryngeal diphtheria were admitted during the year. In connection with these cases it was found to be necessary on twelve occasions to perform tracheotomy. Sixty-eight per cent of the cases operated upon recovered.

Conforming to the reduction in the number of cases in Hospital, has been a corresponding reduction in the strength of the Staff, consistent with safety. It has to be borne in mind that an epidemic of one or other of the

notifiable infectious diseases might, with little or no warning, manifest itself and make a call upon the resources of the Institution, which, unless properly staffed, it could not efficiently respond to. As examples of how suddenly the resources of an Infectious Diseases Hospital may be taxed I might mention the occasion of the epidemic of enteric fever which occurred in Eccles in 1910, and the sudden onset of the epidemic of scarlet fever in Salford in 1914. In both occasions the Protective Staff was strong enough to meet all calls on it and efficiently to deal with the initial onset. I have set out in three columns the number of cases in Hospital on December 31st in each of the past three years, together with a statement showing the number (classified) of the Staff on the same dates:—

	1914		1915		1916
Cases Remaining on December 31st..	183	..	101	...	42
Medical Superintendent .....	1	..	1	..	1
Assistant Medical Officer .....	1	..	1	..	1
Matron .....	..	..	1	..	1
Assistant Matron .....	1		1		..
Night Sister .....	1	..	1	..	1
Day Sisters .....	5	..	1	..	2
Staff Nurses .....	11	..	5	..	5
Probationers (1st, 2nd and 3rd years).	32	.	35	..	26
Storekeeper (Female) .....	1	..	1	..	1
Domestics .....	33	..	32	..	30
Clerk to Medical Superintendent ....	1	..	1	..	1
Engineer .....	1	..	1	..	1
Firemen .....	3	..	3	..	3
Lodge Porters .....	2	..	2	..	2
General Porters .....	3	..	3	..	3
Gardener .....	1	..	1	..	..
Gardener's Labourers .....	5	..	5	..	4
Driver .....	1	..	1	..	1
	109		95		83



In June the Assistant Matron (Miss Cutter) resigned her post on being appointed Matron of another Infectious Diseases Hospital. The number of cases in Ladywell Sanatorium being so small the filling up of the post vacated was postponed, and all the duties pertaining to it have been performed by the Matron (Mrs. Rowan), in addition to her own.

I am pleased to be able to report that the conduct of your Staff has been excellent, and that the work of the various sub-departments has been carried out in a satisfactory manner.

I desire here to express my deep appreciation of the loyal help and support given to me on all occasions by my colleague, Dr. Fleming, Assistant Medical Officer, and by the Matron (Mrs. Rowan), as well as by all the members of the Staff.

To you, Gentlemen, I again tender my sincere thanks for the large measure of confidence, appreciation, and sympathy you have so unremittingly shown to me in all matters connected with the management of Ladywell Sanatorium.

I have the honour to be,

Gentlemen,

Your obedient Servant,

JOHN W. MULLEN,

Medical Superintendent.

SECTION III.

MEDICAL INSPECTION OF  
SCHOOLS.



## MEDICAL INSPECTION OF SCHOOLS.

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This Report deals with the work of the Medical Staff of the Education Committee during the year 1916.

Details of the routine and methods employed were given in previous Reports.

MEDICAL STAFF AND SCHEME OF INSPECTION.—During the previous year the staff was greatly reduced by the departure of a Medical Inspector and two School Nurses on military service, and by the transference of another Medical Inspector to Ladywell Sanatorium to act as Assistant Resident Medical Officer during the absence of Dr. Duncan, who has since met his death whilst on active service in Mesopotamia.

The present staff therefore consists of the Medical Officer of Health, who is Medical Officer to the Education Committee ; the Senior Assistant Medical Officer, who is also Deputy Medical Officer of Health and Medical Superintendent of the Tuberculosis Sanatorium ; one whole-time School Dentist, and three whole-time School Nurses.

The Assistant Medical Officer can only devote half his time to the work of medical inspection and treatment of school children, the other half being taken up with duties in connection with the Tuberculosis Sanatorium.



The work of medical inspection and treatment carried out during the year 1916, therefore, has been in accordance with the modified scheme sanctioned by the Board of Education during the previous year, under which it was arranged that the actual work of medical inspection in the schools should be carried out by the School Nurses, who should examine all the children with reference to the state of cleanliness, and, in addition, with a view to the discovery of defects requiring medical advice or treatment. Children exhibiting such defects were to be referred by the School Nurses for further examination by the Senior Medical Inspector, who would attend in the afternoon at the Central Office for the purpose.

Special attention has been devoted to treatment of children at the School Clinic, as it was felt that this important branch of the work should not be allowed to lapse, even though inspection in the schools should be curtailed. Thus, X-ray treatment of ringworm was carried out as usual, and the Dental and Minor Ailments Clinics were in full swing daily. The number of children treated and the number of attendances at the Minor Ailments Clinic exceeded that of the previous year.

Very valuable help has been rendered voluntarily throughout the year by Dr. Bradley, the Chairman of the Physical Care Sub-Committee, who has kindly devoted two half days per week to eye testing and the prescribing of spectacles for children suffering from visual defect. But for the assistance of Dr. Bradley, this important branch of the work could not have been carried out, owing to the depleted state of the medical staff.

OFFICE ACCOMMODATION.—There are two Inspection Centres in use. The old rooms in the Education Office, however, are now only used for the retinoscopic examination of cases of visual defect for which it may be necessary to prescribe spectacles. With this exception, the whole of the work of inspection and treatment of school children is carried on at the Regent Road Inspection Centre and School Clinic.

### Summary of Examinations.

During the year 1916, 10,695 examinations were conducted by the Medical Officers of the Education Committee.

These 10,695 examinations are made up as follows :—

- (a) Cases of visual defect examined by  
retinoscopy at Chapel Street Office.. 479
- (b) Absentees and cases of disease or defect  
examined by the Medical Officer at  
Regent Road centre ..... 3940
- (c) Verminous cases in which cleansing  
notices have been served under  
Section 122 of the Children Act,  
1908, examined at Regent Road.... 101
- (d) Teachers, pupil teachers, and bursars  
examined at the two inspection  
centres ..... 156
- (e) Children examined in the Schools by  
the School Dentist ..... 6019

At several schools there were outbreaks of sore throat, or scarlet fever, which necessitated, over a period of time which varied in different circumstances, special daily visits of the medical staff, at which the whole of the scholars in the school were examined, for the special purpose of ascertaining their freedom from infection. These examinations have not been included in the preceding figures, as no account was taken of the number of children examined, and the examinations themselves were necessarily limited to the one object in view, and no unnecessary time was spent over them.

INSPECTIONS AT THE CENTRAL OFFICE. — All ringworm and infectious skin disease cases, cases of ophthalmia, &c., reported by Attendance Officers or Teachers, or discovered during the course of medical inspection, have been kept under supervision and periodically inspected, and the children not allowed to return to school until judged by the Medical Inspector to be quite free from infection.

Similarly, all phthisical children reported from different sources or discovered in routine inspection are referred to the inspection centre for periodical examination.

### **Observations on some Defects and Diseases in School Children.**

#### **Cleanliness.**

Children's heads and bodies were examined for pediculosis on the occasion of the Nurses' visits to



schools, when children of all ages are submitted to inspection.

The number of children examined by the Nurses in the schools totalled 2,394. On the whole, the figures showing the state of cleanliness are satisfactory.

Tables showing prevalence of pediculosis are hereby appended :—

TABLES SHOWING PREVALENCE OF PEDICULOSIS IN DEPARTMENTS WHERE ALL THE SCHOLARS PRESENT WERE EXAMINED BY THE SCHOOL NURSES.

INFANTS' DEPARTMENTS.

	Boys.					Girls.				
	No. examin'd	Heads.			Ver- minous bodies.	No. examin'd	Heads.			Ver- minous bodies.
		*A.	B.	C.			*A.	B.	C.	
(A) Aggregate Numbers ..	350	335	10	5	4	355	111	189	55	9
(B) Percentages ..	100	95·7	2·9	1·4	1·1	100	31·3	53·2	15·5	2·5

UPPER DEPARTMENTS.

	Boys.					Girls.				
	No. examin'd	Heads.			Ver- minous bodies.	No. examin'd	Heads.			Ver- minous bodies.
		*A.	B.	C.			*A.	B.	C.	
(A) Aggregate Numbers ..	878	796	77	5	17	811	103	605	103	2
(B) Percentages ..	100	90·6	8·8	0·6	1·9	100	12·7	74·6	12·7	0·2

- \* Heads A—Where neither vermin nor nits are present.  
 „ B—Containing a small number of nits only.  
 „ C—Containing live vermin or numerous nits.

The accompanying table shows the work done under Section 122 of the Children Act, 1908 :—

BOYS.					GIRLS.				
Number of Cleansing Notices Served.	Hair Cut.		Cleansed at Mode Wheel Disinfecting Station.	Cleansed at Home.	Number of Cleansing Notices Served.	Hair Cut.		Cleansed at Mode Wheel Disinfecting Station.	Cleansed at Home.
	By Nurse.	By Parent.				By Nurse.	By Parent.		
17	—	—	9	5	84	57	26	3	11

Inspection by School Dentist.

The School Dentist on visiting the schools, inspects the teeth of all the children aged six, seven, and eight years. All children examined last year have been followed up, and include a number of 9-year-old children. The following tables show (a) the number of sound and decayed teeth (both temporary and permanent) and (b) the actual state of the teeth and gums, and the grinding capacity, of the children examined by the School Dentist :—

TABLE A.

	Age	Number examined.	TEMPORARY TEETH.				PERMANENT TEETH.			
			Number present.	Average per child.	Number decayed.	Average per child.	Number present.	Average per child.	Number decayed.	Average per child.
Boys .....	6	557	10899	19.56	4720	8.47	1858	3.33	164	.29
	7	596	9801	16.61	4840	8.19	4150	6.96	407	.68
	8	612	9029	14.75	4393	7.17	6753	11.03	795	1.29
	9	650	6466	9.94	3375	5.19	9229	14.19	1045	1.60
	Total ...	2415	36195	14.98	17328	7.25	21990	9.10	2411	.99
Girls .....	6	583	11507	19.37	4873	8.36	2408	4.13	188	.32
	7	600	9273	15.45	4364	7.27	4941	8.24	456	.76
	8	651	8043	12.37	3884	5.97	7565	11.63	816	1.25
	9	616	4751	7.71	2532	4.11	8472	13.91	942	1.53
	Total ...	2450	33574	13.70	15653	6.39	23389	9.55	2402	.98
Boys and Girls...	Total ...	4865	69769	14.34	32981	6.78	45379	9.33	4813	.99



TABLE B.

	Age.	Number exami- ned.	State of Teeth.			Condition of Gums.			Grinding Capacity.			Temporary Teeth.			Permanent Teeth.			Hypo- plastic.
			Clean.	Fairly clean.	Dirty.	Healthy	In- flamed.	Septic.	Good.	Average.	Bad.	Sound.	Decayed.	Sound.	Decayed.	Un- saveable		
{ Boys . . . .	6	557	156	292	109	323	155	79	47	167	343	6179	4720	1694	156	8	61	
	7	596	159	323	114	318	188	90	28	190	378	4961	4840	3743	317	90	212	
	8	612	158	352	102	370	168	74	39	219	354	4636	4393	5959	603	192	200	
	9	650	170	377	103	446	149	55	38	276	336	3091	3375	9184	606	439	403	
	Total	2415	643	1344	428	1457	660	298	152	852	1411	18867	17328	20580	1682	729	886	
{ Girls . . . .	6	583	190	310	83	294	174	115	58	172	353	6634	4873	2220	173	15	70	
	7	600	187	325	88	328	187	85	52	189	359	4909	4364	4488	389	67	182	
	8	651	260	329	62	399	196	56	45	246	360	4139	3814	6749	572	244	381	
	9	616	214	333	69	393	164	59	44	254	318	2219	2532	7530	483	459	409	
	Total	2450	851	1297	302	1414	721	315	149	861	1390	17901	15653	20947	1617	785	1042	
Boys & Girls		4865	1494	2641	730	2871	1381	613	301	1713	2801	36768	32981	41527	3299	1514	1928	

The following table shows the number of children examined by the School Dentist, the number and percentage of children to whom treatment was recommended, and the number and percentage of those whose parents wrote accepting treatment.

Age.	Number Examined.			Number recommended treatment.			Number accepted treatment.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.
6-year-old children	557	583	1,140	143	177	320	77	75	152
Percentages.....	..	..	..	25·7	30·3	27·2	53·9	42·4	49·0
7-year-old children	596	600	1,196	218	216	434	83	97	180
Percentages.....	..	..	..	36·6	36·0	36·3	38·1	44·9	41·5
8-year-old children	612	651	1,263	270	296	566	84	120	204
Percentages.....	..	..	..	36·9	45·5	44·8	31·1	40·5	36·0
9-year-old children	650	616	1,266	204	209	413	97	85	182
Percentages.....	..	..	..	31·5	33·9	32·6	47·5	40·7	44·1

### Heart and Circulation.

In all well-marked cases of heart disease, the parents were interviewed and warned of the defect, and the children were referred for further examination in three months' time. The teachers were also warned of such defect and advised as to the child's fitness for drill or otherwise.

### Lungs.

Amongst the inspection cases there were 24 of tuberculosis, and 22 of suspected tuberculosis. At the same time there were very few advanced cases of phthisis,

the majority being in the early stage, the affection being probably chiefly confined to the bronchial or mediastinal lymphatic glands and giving rise to indefinite physical signs, although the children were obviously suffering from the effects of toxic absorption, such as languor, anorexia, loss of flesh, night sweats, &c. The majority of such children are adversely affected by compulsory attendance at an ordinary school.

### Skin Diseases.

RINGWORM.—Cases of Ringworm are notified by Teachers and Attendance Officers, as well as by the Medical Inspection Staff. All cases are invited to attend periodically at the centre for inspection, and no child who has been known to have had ringworm is allowed to return to school without a certificate from the Medical Officer.

During the year 1916, 144 new cases of scalp ringworm and 84 new cases of body ringworm have been under supervision at the inspection clinic, and the total number of examinations in these cases amounted to 964.

A census of the number of cases known to be out of school suffering from this disease at corresponding periods in the last four years shows that the disease is becoming less prevalent, as witness the following figures :—

Total cases known to be suffering from *tinea tonsurans* in August, 1911, 450 ; August, 1912, 394 ; August, 1913, 289 ; August, 1914, 130 ; August, 1915, 72 ; August, 1916, 92.



This very substantial decline in the prevalence of so obstinate a disease must be attributed—first, to rigid exclusion and supervision of all cases that become known ; secondly, to the fact that no child who has had ringworm is allowed to return to school without a certificate from the Medical Officer ; thirdly, to the valuable help afforded by X-ray treatment, which has been administered since the installation of the apparatus at the school clinic in April, 1913.

During the year the X-rays have been administered to 28 cases of scalp ringworm, and in all cases it was necessary to epilate the whole scalp by Kienböck's method. The children were fit to return to school again on the average 3 or 4 weeks after application of rays.

It may be too much to hope that the disease will ever be entirely eradicated, but it is confidently expected that with the help of X-ray treatment the number of cases will in a few years be negligible.

ALOPECIA.—There have been 82 cases under supervision at the inspection centre, with a total of 338 examinations.

The practice of exclusion of these cases until disappearance of alopecia stumps and appearance of new hair growth over the affected patches has been continued.

ECZEMA AND IMPETIGO.—The number of new cases of these diseases under observation during the past year was 141, and the number of examinations 344.

A large number of such cases are now being dealt with very successfully at the school clinic, and many obstinate cases of impetigo are returned to school after a few days' treatment.

SCABIES.—This disease has been rather more prevalent. There were 32 cases under supervision and 128 examinations.

### Infectious Disease.

A system of notification is in force whereby the Head Teachers forward to the Medical Officer of Health particulars of the cause of absence from sickness of children attending their schools. These returns are sent in weekly, and are classified in the following table:—

RETURN OF SICKNESS IN SCHOOLS DURING THE YEAR 1916.

Scarlet Fever.	Diphtheria.	Enteric Fever.	Infectious Diseases (unclassified).	Whooping Cough.	Chicken Pox.	Measles.	Ringworm.	Ophthalmia.	Sore Throat.	Bronchitis and Pneumonia.	Mumps.	Colds.	Other Diseases.
55	13	2	435	754	1133	1719	482	1006	2475	1314	1008	14422	11981

A comparison with the returns for the preceding year shows a greatly diminished prevalence of infectious diseases. There has been an increase in the prevalence of ophthalmia and mumps.

The advantage of this system of weekly notification is that the Medical Officer is made aware of any increase in the incidence of infectious disease amongst scholars attending any particular school, and steps are taken to prevent the further spread of infection. For instance, during the past year it was noticed that some cases of scarlet fever, together with a number of cases of "sore throat," had occurred amongst the scholars attending

one of the schools (St. Cyprian's). The school was visited by the Medical Officer and School Nurse and all the children were examined. In addition, the Medical Officer visited all the children who were absent on account of sore throat or doubtful causes. This house visiting resulted in the discovery of three cases of scarlet fever hitherto unrecognised.

### **Treatment of Defects in School Children.**

Where medical inspection reveals defects calling for treatment, parents are notified of the same.

Parents are never advised to take their children to the Hospital, unless they state definitely they cannot afford private medical treatment.

The conditions for which treatment is undertaken by the Local Authority are :—

- (1) Visual defects.
- (2) Ringworm.
- (3) Minor ailments, such as running ears, chronic nasal catarrh, impetigo, &c.
- (4) Tuberculosis.
- (5) Dental disease.

These are described under their respective headings.

### **The School Clinic.**

The Regent Road centre has become established as a school clinic, and a large number of children now attend daily, both for inspection and also for treatment.

The rooms at present consist of three waiting rooms, three consulting rooms, an X-ray room, and an office.



These premises are distinct from the adjoining Tuberculosis Dispensary, though communication is preserved by means of a corridor.

The School Clinic now comprises :—

- (1) An Inspection Centre.
- (2) An Office and Administrative Centre.
- (3) A Minor Ailments Clinic.
- (4) An X-ray Clinic.
- (5) A Dental Clinic.

### **The Inspection Clinic.**

The Medical Officer attends each afternoon for the purpose of examining all special cases referred to him by the School Nurses in accordance with the modified scheme of school inspection now in force, as well as a large number of cases referred by attendance Officers and Teachers.

Again many children have been medically examined at the request of the parents. It is gratifying to find that parents are availing themselves more and more of the facilities for obtaining medical advice with respect to their children, the requests for a consultation being made sometimes through the medium of the head teacher and sometimes direct to the office. In some cases advice was all that was necessary, and as the parent or guardian was practically always in attendance, advice could be given direct, and hence much more likely to be acted upon than when forwarded through the medium of a printed notice.

Where it was considered desirable that a child should be kept under observation invitations were issued periodically, and the child brought by the parent for re-examination from time to time.

A large number of the children inspected were found to be in need of some form of medical treatment. Some of these were referred to the family doctor, or to hospital. Many suffering from such conditions as running ears, nasal obstruction, ophthalmia, and contagious skin diseases were transferred to the Minor Ailments Clinic for regular treatment.

Again, children found to be suffering from tuberculosis were referred to the adjoining Tuberculosis Dispensary for observation and treatment. In this connection the close co-ordination of School Clinic and Tuberculosis Dispensary was found to be a great advantage, as in cases of doubt a consultation could at once be obtained with the Tuberculosis Officer, Dr. W. H. Tattersall.

Table S VI. shows the number of children examined at the Inspection Centre, the number of re-examinations and the diseases from which the children were suffering.

### **Minor Ailments Clinic.**

An increasingly large number of children are now being treated at the Minor Ailments Clinic, one of the School Nurses devoting the whole of each morning to the work, which comprises the treatment of cases that would otherwise receive little or no attention, such as chronic ear discharge, chronic nasal discharge with obstructive deafness, cases of tinea, alopecia, eczema, impetigo, and sores, septic conditions, and such common external eye diseases as conjunctivitis and blepharitis.

It is found that the great majority of these cases rapidly improve under thorough treatment, and, as a rule, even the bad cases are soon able to resume school.

A large number of the children, examined first at the Inspection Clinic, have been transferred to the Minor Ailments Clinic for treatment; hence, owing to the increasing number of cases treated, the assistance of a second School Nurse has been necessary on some of the busier mornings.

The treatment is carried out by the School Nurses under the direction of the Medical Officer.

Local treatment (such as douching and applications) has been carried out with benefit in cases of adenoids awaiting surgical treatment. Surgical treatment for enlarged tonsils and adenoids has hitherto been carried out chiefly at the hospitals, and rarely at the hands of the general practitioner. At the present time, owing to the great pressure of work at the voluntary hospitals, treatment of children suffering from tonsils and adenoids is generally long deferred. The child's name is apparently put down on a waiting list, and after months of waiting the parent gives up hope of having the operation performed. It is therefore very desirable that steps should be taken by the Local Authority to provide surgical treatment for these neglected cases. A beginning might be made with three or four beds for the purpose at the Regent Road Centre.

The following table shows the number of new cases and attendances up to December 31st, 1916:—

	Boys.	Girls.	Total.
New Cases .....	586	436	1022
Attendances .....	5110	3656	8766



## The Dental Clinic.

The Dentist reports that during the year 1916 he found a great improvement in the mouths of the children, especially as regards oral sepsis. The cleanliness of the teeth, although improved, is not quite what we should like it to be, but with a little more drilling in the use of the tooth brush we anticipate a further improvement during the current year.

The Dentist's method at the Clinic is as follows:— Before discharging a child he fully explains to the mother the difference between the six-year-old molar and the temporary teeth, as he finds that most parents are under the impression that the six-year-old molar is a first or temporary tooth. He explains to them the treatment which has been carried out and the reason for it, and also impresses upon them the importance of the daily use of the tooth brush after each meal, and especially the last thing at night before retiring to rest.

A gratifying feature of the year's work is the increase in the number of casual cases (389 attended the Clinic compared with 156 last year), which proves that the parents appreciate the work done at the Clinic, and also that the children are not afraid to come to have the offending tooth removed. The attendance of the children at the Clinic has been extremely good, very few of them failing to keep their appointments.

		Boys.					Girls.					Boys and Girls.							
		Age 6.	Age 7.	Age 8.	Age 9.	Cas-uals.	T'tal.	Age 6.	Age 7.	Age 8.	Age 9.	Cas-uals.	T'tal.	Age 6.	Age 7.	Age 8.	Age 9.	Cas-uals.	T'tal.
Number of Children Treated . . .		63	92	112	121	169	557	68	103	122	122	220	635	131	195	234	243	389	1192
Temporary Teeth.	Dressings . . . . .	1	..	..	..	7	8	1	..	..	..	11	12	2	..	..	..	18	20
	Extractions—																		
	(a) Without anæsthetic . . .	82	85	136	139	87	529	67	107	144	117	161	596	149	192	280	256	248	1125
	(b) With local anæsthetic . . . . .	25	32	22	21	60	160	39	26	30	21	61	177	64	58	52	42	119	337
	(c) With gas . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Scalings . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Permanent Teeth.	Dressings . . . . .	..	4	12	7	2	25	..	5	6	13	4	28	..	9	18	20	6	53
	Extractions—																		
	(a) Without anæsthetic . . .	..	1	..	2	25	28	..	..	..	..	17	17	..	1	..	2	42	45
	(b) With local anæsthetic . . .	..	1	..	2	33	36	..	..	..	2	39	41	..	1	..	4	72	77
	(c) With gas . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Scalings . . . . .	..	5	8	24	..	37	4	1	10	14	1	30	4	6	18	38	1	67
	Fillings—																		
	(a) With amalgam .	63	137	197	180	6	583	49	150	241	151	11	602	112	287	438	331	17	1185
	(b) With cement ..	3	3	10	11	..	27	1	6	20	19	..	46	4	9	30	30	..	73
	(c) With amalgam and cement ..	..	3	3	2	..	8	..	3	7	6	..	16	..	6	10	8	..	24

It will be noticed from the foregoing table that 1,192 children were treated at the Dental Clinic. There were 1,584 extractions of teeth, 1,282 fillings, 73 dressings, and 67 scalings.

### **The X-Ray Clinic.**

The very efficient X-ray apparatus for the treatment of ringworm was installed early in the year 1913.

From the beginning this Clinic has been highly successful in coping with the large amount of scalp ringworm of an obstinate type, formerly prevalent in the Borough.

The hundreds of cases which have been treated have mostly been of that extensive and diffuse type which is practically incurable by drug treatment. In all but a few cases it has been necessary to epilate the whole of the scalp. Yet in no case has any accident such as X-ray burn or permanent alopecia ever resulted.

Owing to being short-staffed in respect to both Medical Inspectors and School Nurses there has been during the past year a falling off in the number of cases of scalp ringworm submitted to X-ray treatment. At one period of the year, when there were only two Nurses on duty, it was found absolutely impossible for the time being to arrange for any X-ray work. Fortunately, owing to the successful efforts of the previous years, the prevalence of scalp ringworm had been greatly reduced. There is just the fear that with the stoppage of routine medical inspection and the curtailment of inspection by School Nurses



through diminished staff, and the demands of the School Clinic, ringworm may again be on the increase in the schools. However, with the prospect of a speedy termination of the war, bringing with it the return of the full medical staff, the efficient means of treatment which we already possess should soon enable us to again reduce the prevalence of this disease to an almost negligible amount.

It was found necessary to epilate the whole scalp in each case according to the five-exposure method of Kienböck. By this method the whole of the scalp is exposed at one sitting of approximately two hours, epilation being complete by about the end of the third week following.

After X-ray application children are allowed to return to school, wearing a cap, as soon as epilation is complete and no ringworm stumps remain in the scalp.

A nominal charge of 2s. 6d. per child treated is made to the parent.

### Swimming Instruction.

During the season just closed, eleven Swimming Instructors were appointed for boys and four for girls, and the number of attendances of children during school hours at the several baths was 23,607 in the case of boys, and 21,160 in the case of girls, making a total of 44,767, as compared with 50,569 in the previous year. Reports were received from the Instructors that, of the children attending the baths, 1,231 boys and 600 girls proved themselves able to swim.

In order to encourage the children to learn swimming, the Baths Committee have continued the arrangement under which a free season ticket for the ensuing year is given to each scholar who, at the commencement of the season, is unable to swim more than ten yards, and who at the end of the season has proved himself able to swim one length of the bath. Certificates of proficiency are also awarded by the Education Committee, after an examination conducted by a Committee of Head Teachers. The number of such certificates gained during the past season was 1,061, compared with 1,109 for the previous year.

### Meals to School Children.

With the consent of the Council, the Committee have again made provision for the supply of meals to school children, under the Education (Provision of Meals) Act, 1906.

The usual arrangements in regard to the cooking of the dinners and the conveyance to the feeding centres were followed.

The number of children requiring free meals has, during the greater part of the past year, been below normal.

### General.

The schools were regularly visited by the Sanitary Inspectors, who have paid altogether 661 visits. Improvement in the sanitary condition of outside offices, yards, &c., has been maintained.

Twelve departments have been disinfected during the year for certain special diseases, *i.e.*, diphtheria, scarlet fever, sore throat, and measles.

### Open-air School.

This Day School was opened on the 28th August, 1916, in the open shed and premises in the David Lewis Recreation Ground. The children admitted were selected, after examination by the medical staff, from the number who were excluded from the ordinary elementary schools by reason of their being ailing or delicate.

At the end of December there were 25 boys and 30 girls on the books. The staff consists of a head teacher with two assistants. The School Nurse attends every Monday, when the children are weighed; the Medical Inspector also visits the school every week. The children attend each week day except Saturday, those from a distance coming by tramcar. Three meals are provided—breakfast, dinner, and tea, for which a maximum charge of 6d. per day is made.



There has been a marked improvement in the physical condition of the children in spite of unfavourable weather conditions which prevailed on many days in November and December.

Comparing the nett weight of the children at the end of the session with the nett weight at the beginning, the boys show an average gain of about 3 lbs. and the girls about 4 lbs. each. Considering that the weights of many of these children had remained practically stationary for some months previous to admission, this result may be considered very satisfactory.

The parents of many of the children were present at the medical examination at the end of December, and they generally expressed their satisfaction at the progress their children had made. The dietary is evidently beneficial and much appreciated.

The teachers have taken a great interest in the physical welfare of the children. It has been necessary to prescribe medical treatment for some of the children, and in such cases the prescribed treatment has been satisfactorily carried out by the staff when the School Nurse was not in attendance.

One may say that the site and buildings have proved more suitable for the purpose of an Open-air School than we had expected. Nett weights of all children were taken at the beginning and end of the session. Gross weights (with clothes except shoes) were taken weekly by the School Nurse.

The dietary for the Open-air School is appended

below. Dinners are cooked at the same centre as for free meals, and are brought to the school by cart.

Porridge for breakfast is cooked on the premises.

MENU :

*Monday* . . . . Hashed meat and potatoes, jam roll.

*Tuesday* . . . Potato pie, rice pudding.

*Wednesday* . . Pea soup and dumplings, rice and  
fruit.

*Thursday* . . Hot pot, rice pudding.

*Friday* . . . . Lentil soup or fish (alternatively),  
jam roll.

TABLE S I.

CHILDREN EXAMINED AT THE INSPECTION CENTRES BY THE MEDICAL INSPECTORS.

	Boys.	Girls.	Total.
New Cases.....	756 ..	892 ..	1648
Re-examinations .....	1102 ..	1190 ..	2292.
Total Examinations .....	1858 ..	2082 ..	3940

CHILDREN EXAMINED BY THE EYE SPECIALIST.

	Boys.	Girls.	Total.
Number .....	190 ..	289 ..	479
Spectacles prescribed for .....	173 ..	265 ..	438

Teachers Medically Examined .....	5
Pupil Teachers Medically Examined.....	53
„ „ Re-examined .....	17
Bursars Medically Examined .....	48
„ „ Re-examined .....	33
Sanitary Inspectors' Visits to Schools .....	661
Defects Found .....	16

Urinal gulley choked .....	1
W.C.'s defective or choked.....	6
Rain-water pipes broken .....	2
Downspouts choked .....	2
Flush tanks defective.....	3
Drain inlets choked .....	2
	<u>16</u>

Schools disinfected .....	12
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TABLE S IV.

TREATMENT OF DEFECTS OF CHILDREN DURING 1916.

CASES TREATED AT THE MINOR AILMENTS CLINIC.

	Boys.	Girls.	Total.
Skin Disease.....	444	339	783
Wounds .....	3	3	6
Disease of the Nose and Throat.....	13	26	39
Ear Disease .....	66	48	114
External Eye Disease .....	80	50	130
Teeth .....	557	635	1192
Spectacles prescribed for .....	190	289	479

TABLE 8 VI.

CLASSIFICATION OF SPECIAL CASES  
EXAMINED BY THE MEDICAL INSPECTORS, AT THE INSPECTION CENTRES,  
DURING THE YEAR 1916.

	Boys.		Girls.		Total Examina- tions.
	1st Exam.	Re- examined.	1st Exam.	Re- examined.	
Number examined . . . . .	756	1102	892	1190	3940
<b>Skin Diseases—</b>					
Ringworm, head . . . . .	83	392	61	241	777
„ body . . . . .	44	54	40	49	187
Scabies . . . . .	16	52	16	44	128
Eczema . . . . .	10	6	4	12	32
Impetigo . . . . .	59	97	68	88	312
Alopecia . . . . .	41	151	41	105	338
Psoriasis . . . . .	2	5	..	2	9
Lupus . . . . .	1	3	..	..	4
Multiple Papilloma . . . . .	..	2	..	..	2
Herpes . . . . .	..	2	..	..	2
Boils . . . . .	1	1	2	3	7
Dermatitis . . . . .	4	..	7	11	22
<b>Pediculosis—</b>					
Head . . . . .	1	2	37	28	68
<b>Mental Condition—</b>					
Epilepsy . . . . .	3	5	2	10	20
Mentally Defective . . . . .	6	3	6	1	16
Mentally & Physically Backward	1	..	..	..	1
<b>Nose and Throat—</b>					
Rhinitis and Nasal Catarrh . . .	3	6	11	7	27
Nasal Obstruction . . . . .	..	..	2	..	2
Tonsillitis . . . . .	19	32	53	95	199
Laryngitis . . . . .	1	..	..	5	6
Tonsils Enlarged . . . . .	..	3	5	6	14

TABLE S VI.—Continued.

## CLASSIFICATION OF SPECIAL CASES—Continued.

	Boys.		Girls.		Total Examina- tions.
	1st Exam.	Re examined.	1st Exam.	Re- examined.	
Nose and Throat—(continued).					
Tonsils and Adenoids .....	6	11	8	10	35
Adenoids .....	1	2	1	..	4
Goitre .....	..	4	1	2	7
Deflected Septum.....	..	1	..	..	1
External Eye Diseases—					
Strabismus .....	1	..	1	..	2
Blepharitis .....	1	17	4	8	30
Conjunctivitis .....	32	48	41	52	173
Corneal Ulcer and Nebula ...	1	5	2	6	14
Keratitis .....	1	1	2	10	14
Enucleation of the Eye .....	..	1	..	..	1
Vision—					
Very defective.....	14	2	44	12	72
Ear Disease—					
Otorrhœa and Otitis .....	28	18	24	18	88
Cerumen.....	..	..	2	1	3
Hearing—					
Impaired.....	2	2	3	3	10
Deaf and Dumb .....	..	..	1	..	1
Deafness.....	3	..	1	2	6
Speech—					
Defective (Stammering) .....	..	..	1	..	1
Heart Disease—					
Congenit l Heart Disease.....	..	1	..	3	4
Mitral Disease.....	2	4	2	2	10
Cardiac Disease .....	6	8	10	31	55
Lungs—					
Phthisis (?).....	9	12	13	38	72
Phthisis.....	12	7	12	19	50
Bronchitis.....	21	40	24	28	113
Pneumonia .....	1	..	..	..	1
Pleurisy .....	1	5	4	7	17



TABLE S VI.—*Continued.*CLASSIFICATION OF SPECIAL CASES—*Continued.*

	Boys.		Girls.		Total Examina- tions.
	1st Exam.	Re- examined	1st Exam.	Re- examined.	
<b>Tuberculosis—</b>					
General Tuberculosis .....	1	1	..	1	3
Bone and Joint .....	3	2	2	9	16
Abdominal .....	2	2	3	1	8
Glands.....	13	16	6	11	46
<b>Rickets .....</b>	<b>1</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>10</b>
<b>Nervous System—</b>					
Paralysis of the Palate .....	..	..	..	1	1
Pains in Head .....	5	6	2	18	31
Chorea.....	2	14	16	23	55
Incontinence of Urine .....	1	4	3	7	15
Nervousness .....	3	..	2	1	6
Neuritis.....	..	..	..	2	2
Neuralgia .....	..	..	1	1	2
<b>Delicate .....</b>	<b>53</b>	<b>75</b>	<b>67</b>	<b>107</b>	<b>302</b>
<b>Anæmia and Debility .....</b>	<b>14</b>	<b>25</b>	<b>23</b>	<b>62</b>	<b>124</b>
<b>Fainting .....</b>	<b>3</b>	<b>..</b>	<b>3</b>	<b>17</b>	<b>23</b>
<b>Malformations—</b>					
Wry Neck .....	..	..	1	..	1
Lateral Curvature of the Spine..	..	1	1	..	2
Pigeon Chest .....	2	..	..	..	2
<b>Other Diseases—</b>					
Rheumatism .....	6	4	4	8	22
Gastric Catarrh .....	4	2	6	15	27
Tumour .....	..	..	2	3	5
Nephritis .....	3	5	1	4	13
Dog Bite .....	..	1	..	..	1
Oral Sepsis .....	1	..	1	..	2
Dental Caries .....	..	..	1	..	1
Gingivitis.....	..	..	1	1	2
Stomatitis .....	1	..	1	4	6

TABLE S VI.—Continued.

CLASSIFICATION OF SPECIAL CASES—Continued.

	Boys.		Girls.		Total Examina- tions.
	1st Exam.	Re- examined.	1st Exam.	Re- examined.	
Other Diseases—(continued).					
Abscess.....	8	3	3	8	22
Osteo-Myelitis .....	..	..	1	..	1
Wound in Leg .....	..	2	..	..	2
Jaundice.....	..	..	1	..	1
Dropsy .....	1	..	1	1	3
Ulcers .....	..	..	1	..	1
Adenitis .....	4	5	5	19	33
Pleurodynia .....	..	..	1	..	1
Green Stick Fracture.....	1	..	..	..	1
Malnutrition .....	3	3	..	..	6
Tape Worms .....	..	..	1	..	1
Umbilical Hæmorrhage .....	..	2	..	..	2
Appendicitis .....	..	..	..	4	4
Staphylococcal Infection .....	..	1	..	..	1
Infectious Disease—					
Chicken Pox .....	1	2	1	..	4
Mumps .....	1	4	3	5	13
Whooping Cough .....	..	6	..	2	8
Influenza .....	..	..	3	6	9
Fit for School .....	166	..	178	..	341

**TABLE S VII.**

SUMMARY OF CASES SEEN BY THE OPHTHALMIC OFFICER AT THE  
EDUCATION OFFICE DURING THE YEAR 1916.

**A.—REFRACTIONS.**

	Boys.	Girls.	Total.
Hypermetropia .....	81	96	177
Hypermetropic Astigmatism .....	26	61	87
Compound Hypermetropic Astigmatism....	16	13	29
Myopia .....	30	76	106
Myopic Astigmatism, .....	13	15	28
Compound Myopic Astigmatism .....	10	10	20
Mixed Astigmatism .....	1	11	12
Nil.....	8	5	13
<b>TOTALS</b> .....	<b>185</b>	<b>287</b>	<b>472</b>

**B.—DISEASES OF THE EYE.**

	Boys.	Girls.	Total.
Keratitis .....	1	4	5
Blepharitis . .....	1	..	1
Conjunctivitis .....	1	1	2
Corneal Opacities.....	..	2	2
Corneal Ulcer .....	1	..	1
Nystagmus .....	1	..	1
Strabismus .....	6	6	12
Ophthalmia .....	1	..	1
Cataract.....	1	1	2
Blind .....	1	..	1
Infantile Inflammation .....	1	..	1
<b>TOTALS</b> .....	<b>15</b>	<b>14</b>	<b>29</b>



**TABLE S VIII.**

BLIND, DEAF, AND DEFECTIVE CHILDREN.

NEW CASES SENT TO SPECIAL SCHOOLS DURING 1916.

	Boys.	Girls.	Total.
<b>To</b> Residential Blind School .....	..	..	..
„ Deaf and Dumb Institution ....	1	2	3
„ Day Blind School .....	2	1	3
TOTALS .....	3	3	6

**TABLE S IX.**

**TOTAL NUMBER OF CHILDREN MAINTAINED IN INSTITUTIONS, AT THE PART COST OF THE COUNCIL, AS AT SEPTEMBER 30TH, 1916.**

Name of Institution.	Boys.	Girls.	Total.
Henshaw's Blind Asylum, Manchester .....	2	5	7
Catholic Blind Asylum, Liverpool .....	2	..	2
Homes for the Blind, Fulwood, Preston .....	3	..	3
Manchester Day Classes for the Blind .....	6	12	18
Manchester Schools for the Deaf and Dumb ....	13	3	16
St. John's Institution for the Deaf and Dumb, Boston Spa .....	3	4	7
Jews' Deaf and Dumb, London .....	..	1	1
Soss Moss Epileptic Colony School .....	2	..	2
Pontville R.C. Special School, Ormskirk .....	1	..	1
Sandlebridge School for Feeble-minded .....	4	1	5
Greengate Dispensary .....	..	..	..
Grimké Ward for Cripples .....	9	8	17
<b>TOTALS .....</b>	<b>45</b>	<b>34</b>	<b>79</b>

TABLE S X.

EXAMINATION OF BURSARS, 1916.

	Boys.	Girls.	Total.
Number Examined .....	4	43	47
Passed .....	2	21	23
Passed after Treatment of Remedial Defects	2	20	22
Rejected .....	..	2	2

TABLE S XI.

EXAMINATION OF PUPIL TEACHERS, 1916.

	Boys.	Girls.	Total.
Number Examined .....	9	45	54
Passed .....	4	36	40
Passed after Treatment of Remedial Defects	4	9	13
Rejected .....	1	..	1



SECTION IV.

# VETERINARY INSPECTOR'S REPORT



## SECTION IV.

# VETERINARY INSPECTOR'S REPORT

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### **Swine Fever Order, 1908.**

Six outbreaks of Swine Fever occurred during the year 1916.

In each of these cases the Board of Agriculture and Fisheries were at once notified. The carcasses of the animals were destroyed and the disinfection of the slaughterhouse, floats, &c., carried out as required by the Swine Fever Order, and all the necessary precautions taken to prevent the spread of the disease. None of these cases were notified but were discovered during the course of meat inspection.

### **Maintenance of Live Stock Order 1915, as amended by the Maintenance of Live Stock Order of 1916.**

This Order prohibits, with certain exceptions, the slaughtering of—

- (1) Animals visibly or obviously in-calf or in-pig.
- (2) Calves in which the first permanent molar is not cut, which, for practical purposes, means calves which are not six months old.



The Order allows the slaughtering of calves which have been offered for sale by public auction, and for which no bid exceeding 40s. has been made, provided a calf so offered for sale has been branded with a broad arrow by the auctioneer, or under his direction.

It also allows the slaughtering of an in-calf or an in-pig animal or of a calf if slaughter is necessary on account of accidental injury or illness of the animal.

Forty-seven calves have been slaughtered in the Borough during the year. Of these 13 were accidentally injured, ill, or had died in transit. The remainder were carefully examined previous to slaughter, and in each case the brand was visible. There were therefore no offences against this portion of the Order.

A few animals, which were obviously in-calf, have been brought to the public slaughterhouse. Some of them were seriously injured during transit, and were slaughtered.

Permission to slaughter the remainder was refused.

As there is no Public Auction Market in Salford, the illegal branding of calves is very difficult to detect, the offences being committed before the arrival of the calves in Salford. Where there has been any suspicion of an offence having been committed, information has been sent as quickly as possible to the Local Authorities concerned.

Information has been received from other authorities that unbranded calves have been consigned to this Borough for slaughter. Careful enquiries have been made,

and in each case it was found that the calves were passing through the town to public abattoirs in neighbouring districts.

The authorities of these districts were informed, and all possible assistance given to prevent breaches of the Order.

### Swine Fever (Regulation of Movement) Order, 1908.

The following summary shows the number of movement licenses dealt with under the above Order, and the number of pigs :—

	Number of Licenses.	Number of Pigs.
Store Pigs licensed into the Borough . . . .	90	856
Fat Pigs licensed into Cattle Market . . . . .	4	30
Fat Pigs licensed to slaughterhouses in the Borough . . . . .	260	12,371
Fat Pigs licensed to slaughterhouses outside the Borough . . . . .	12	99
Store Pigs licensed out of the Borough . . . .	..	..
	366	13,356

### Parasitic Mange Order, 1911.

Eleven outbreaks of Parasitic Mange were reported during the year. Fifteen horses were examined and nine found to be affected with the disease. In each case the

animals affected were at once isolated and the premises and utensils thoroughly disinfected.

### **Cattle Market.**

The Market has been visited and inspected each market-day throughout the year, and no cases of scheduled disease were discovered.

The number of animals exhibited for sale in the Salford Cattle Market during 1916 is as follows :—

84,210 Cattle.

497,708 Sheep.

2,024 Calves.

10 Pigs.

### **Lairs and Railway Cattle Docks.**

Frequent visits have been made each week to the Lairs and Railway Cattle Docks in the Borough, as required by the Animals (Transit and General) Order of 1895.

The number of animals which arrived in the Borough by Rail during the past year is as follows :—

Cattle.	Sheep.	Pigs.	Calves.	Horses.
126,268	615,470	2,819	6,518	308



## Unwholesome Food.

The amount of diseased and unsound food dealt with under the Public Health Acts, 1875 and 1890, during the year 1916, is summarised in the following tables:—

MONTH.	Total Number of Seizur s.	Beef.	Mutton.	Pork.	Veal.	Miscellaneous.					TOTALS
						Horse Flesh.	Brussels Sprouts.	Mussels.	Flour.		
		Weight in lbs.	Weight in lbs.	Weight in lbs.	Weight in lbs.	Weight in lbs.	Weight in lbs.	Weight in lbs.	Weight in lbs.		
January . . . . .	89	2,360	1,860	1,425	6	..	..	..	..	5,651	
February . . . . .	103	3,460	2,960	1,200	200	..	224	..	..	8,044	
March . . . . .	74	912	2,135	2,120	100	..	..	..	..	5,267	
April . . . . .	55	2,270	950	2,030	..	..	..	..	..	5,250	
May . . . . .	48	1,020	1,150	1,085	120	400	..	672	..	4,447	
June . . . . .	29	440	405	1,622	60	..	..	..	..	2,527	
July . . . . .	34	520	280	700	80	..	..	..	..	1,580	
August . . . . .	71	725	870	3,130	80	..	..	..	..	4,805	
September . . . . .	40	615	540	1,165	..	800	..	..	..	3,120	
October . . . . .	43	2,440	1,260	1,065	..	..	..	..	..	4,765	
November . . . . .	66	2,000	1,710	863	260	..	..	..	..	4,833	
December . . . . .	56	2,680	1,760	1,830	100	..	..	..	56	6,426	
Total . . . . .	708	19,442	15,880	18,235	1006	1200	224	672	56	56,715	

Where Seized.	Seizur's.	Beef.	Mutton.	Pork.	Veal.	Horse Flesh.	Totals.		
							Sprouts.	Mussels.	Flour.
Public Slaughterhouses . . . . .	341	19,242	15,880	..	1006	800	..	..	36,928
Private . . . . .	353	200	..	18,235	..	..	..	..	18,435
Shops . . . . .	4	..	..	..	..	400	..	56	456
Triperies . . . . .	..	..	..	..	..	..	..	..	..
Railway Stations . . . . .	10	..	..	..	..	..	224	672	896
Food Premises . . . . .	..	..	..	..	..	..	..	..	..
Totals . . . . .	708	19,442	15,880	18,235	1006	1200	224	672	56 56,715

The total number of seizures therefore was 708, weighing 56,715 lbs., and this amount was condemned for the following causes:—

No. of Seizures.	Cause of Seizure.	Weight in lbs.
2	Pleurisy .....	35
14	Cirrhosis .....	210
7	Septicæmia .....	2,420
1	Abscess .....	60
280	Tuberculosis .....	18,575
49	Asphyxiation .....	3,450
27	Swine Fever .....	2,420
220	Decomposition .....	20,207
15	Injured .....	3,710
4	Echinococcus .....	68
28	Dropsy .....	1,910
2	Congestion .....	180
1	Leukemia .....	110
2	Fluke Disease .....	35
1	Immature .....	60
3	Pneumonia .....	41
25	Parasitic .....	395
15	Emaciation .....	1,832
9	Fevered .....	670
1	Necrosis .....	7
2	Jaundice .....	320
708		56,715

### Meat Seizures.

Legal proceedings were taken against the occupier of a shop for exposing for sale, for human consumption, unsound bacon. A total fine of £3 was inflicted.

### Tinned Food.

The following table shows the amount of tinned food-stuffs surrendered by the occupiers of the wholesale grocery warehouses:—

## WAREHOUSE SEIZURES.

Month.	Number of Seizures				Meat. Weight in lbs.	Fish. Weight in lbs.	Fruit. Weight in lbs.	Milk. Weight in lbs.	Eggs. Weight in lbs.	Totals.	
	Meat.	Fish.	Fruit.	Milk.	Eggs.					Seizures.	Weight in lbs.
January .....	10	19	14	..	..	204	102 $\frac{1}{4}$	36 $\frac{3}{4}$	..	43	343
February .....	8	21	7	..	..	120	116 $\frac{3}{4}$	19 $\frac{1}{4}$	..	36	256
March .....	5	14	9	..	..	86	43	35	..	28	164
April .....	7	16	11	..	..	102	61 $\frac{1}{2}$	59	..	34	222 $\frac{1}{2}$
May .....	2	14	8	..	..	21	60	52	..	24	133
June .....	6	32	17	1	..	76	147	63 $\frac{1}{2}$	5	56	291 $\frac{1}{2}$
July .....	9	20	5	..	1	60	88	27 $\frac{1}{2}$	..	35	181 $\frac{1}{2}$
August .....	6	8	6	..	..	48	55	26 $\frac{1}{2}$	..	20	129 $\frac{1}{2}$
September .....	..	2	2	..	..	..	12 $\frac{3}{4}$	7	..	4	19 $\frac{3}{4}$
October .....	12	15	17	1	..	133	101 $\frac{1}{2}$	162	40	45	436 $\frac{1}{2}$
November .....	2	9	4	1	..	18	52	11 $\frac{1}{2}$	40 $\frac{1}{2}$	16	122
December .....	7	12	5	..	..	90	67	34	..	24	191
	74	182	105	3	1	958	906 $\frac{3}{4}$	534	85 $\frac{1}{2}$	365	2490 $\frac{1}{4}$
								6			



### Disposal of Unsound Food.

A considerable proportion of unsound beef, mutton, and pork has been sent to a fat melter, and fat abstracted from it.

A guarantee has been obtained from the fat melter that the fat shall only be used for the making of soap. Part of the remainder has been used for hen food, with good results.

The residue, which was of very poor quality, and void of fat, has been burned at the Public Destructor. The most economical method of disposing of the greater part of the condemned meat appears to be by the using of it as food for animals and poultry.

### Horseflesh.

It will be noticed that a considerable number of horses were slaughtered during the year at the public slaughterhouse.

In addition to the amount of horse flesh seized, as shown in the previous table, a number of carcasses which, although free from disease, were of very poor quality, were sold by the owners to pig feeders and proprietors of menageries for the feeding of animals. A few other horses that were brought to the slaughterhouse were in such a condition that permission to slaughter them was refused. These were all sent to a knacker yard.

### Tuberculosis in Cattle.

A number of cattle apparently affected with tuberculosis have been exposed for sale in the Cattle Market. A few of these animals were brought voluntarily by the owners to the slaughterhouse and slaughtered. Most of

the remainder were bought by dealers and taken to public slaughterhouses in neighbouring boroughs and inspected after slaughter by the Inspectors of these boroughs.

### Slaughter-houses.

There are 14 private slaughterhouses in the Borough, 13 licensed and one registered. Three of the above are used solely for the slaughtering of pigs.

This is one less than last year. The occupier of the disused slaughterhouse applied for a license, but before obtaining it ceased to occupy the slaughterhouse.

The following table gives particulars of the visits and number of carcasses inspected:—

MONTH.	No. of Visits.	Beef.	Mutton.	Pork.	Veal.	Horse-flesh.	Total.
January .....	120	67	318	749	2	12	1,148
February .....	98	133	319	786	6	17	1,261
March .....	123	86	235	788	6	20	1,135
April .....	140	80	166	667	8	24	945
May .....	123	80	253	412	8	22	775
June .....	128	41	418	559	2	29	1,049
July .....	147	27	452	454	..	32	965
August .....	149	55	684	512	4	44	1,299
September .....	132	33	322	648	2	40	1,045
October .....	141	81	304	785	3	57	1,230
November .....	129	74	228	842	3	53	1,200
December .....	119	97	368	1,137	3	53	1,658
Total .....	1,549	854	4,067	8,339	47	403	13,710

In addition to the private slaughterhouses there are four public slaughtering booths at the Cattle Market.

Two of these booths are used solely for the slaughtering of horses.

### **Cowkeepers.**

There are now seven cowkeepers in the Borough with accommodation for about 200 cows. Frequent visits have been made to these shippens. One shippen with accommodation for 32 cows is in such an insanitary condition that the owner has decided to give up the use of the shippen as soon as he can profitably dispose of his cattle.

### **Tuberculous Milk.**

One sample of milk was submitted to Professor Delepine for examination for the presence of tubercle bacilli. This sample was taken from a cow which was in a shippen in the Borough and exhibited symptoms of tuberculosis. Professor Delepine reported that the bacilli had not been found in the sample.

The animal was shortly afterwards removed from the shippen and slaughtered at a public slaughterhouse in a neighbouring borough. The results of a post-mortem examination have not been obtained.

### **Premises where Food is Prepared.**

One hundred and forty-nine visits have been made to these premises.

Several of these places are not in good sanitary condition, but owing to the shortage of labour and the high price of materials, it has been thought advisable to leave any alterations until a more favourable time.

No seizures have been made. A small quantity of unsound meat has been destroyed on the premises.



SECTION V.

BOROUGH ANALYST'S REPORT.



## TO THE HEALTH COMMITTEE.

GENTLEMEN,—

I have the honour to present my Annual Report on the work carried out in the Borough Laboratories during the year 1916.

During the year, 1,273 samples have been submitted to me for analysis. Of these 1,202 were taken in connection with the Sale of Food and Drugs Acts, two were in connection with the Milk and Cream Regulations, 1912, fifty-five were samples sent in by various Corporation departments, whilst fourteen were prescriptions taken for the Insurance Committee.

Of the 1,202 samples taken under the Sale of Food and Drugs Acts, seventy, or 5·8 per cent, were adulterated. This is the highest percentage of adulteration which has been recorded since the year 1893, when 6·6 per cent of the samples were returned as adulterated. Various circumstances have combined to cause this serious increase, full particulars of which are given in the body of the report.

I have the honour to be, Gentlemen,

Your obedient servant,

G. D. ELSDON,

Borough Analyst.

Municipal Laboratories,

141, Regent Road, Salford,

*February, 1917.*





# SALFORD BOROUGH ANALYST'S REPORT.

## 1. Samples under the Sale of Food and Drugs Act.

The total number of Foods and Drugs examined during the year was 1,202, of which seven were sent in by private traders in the Borough. The following tables give complete details concerning the various articles examined :—

Samples.	Total Number Examined.	Number Adulterated.		Percentage of Adulteration.
		Preservatives only.	Other Ways.	
Milk .....	386	3	36	10·1
Butter .....	134	..	2	1·5
Cheese .....	239	..	..	..
Lard .....	109	..	..	..
Margarine .....	61	..	..	..
Flour .....	24	..	..	..
Self-raising Flour .....	21	..	1	4·8
Bread .....	18	..	..	..
Sago .....	22	..	..	..
Tapioca .....	4	..	..	..
Rice .....	54	..	..	..
Pearl Barley .....	7	..	..	..
Ground Rice .....	1	..	..	..
Sugar .....	10	..	..	..
Coffee .....	2	..	..	..
Cornflour .....	4	..	..	..
Pepper .....	2	..	..	..
Syrup .....	1	..	..	..
Baking Powder .....	35	..	11	31·5
Egg Powder .....	8	..	2	25·0
Chocolate .....	1	..	..	..
Cocoa .....	2	..	..	..
Cream of Tartar .....	2	..	..	..
White Precip. Ointment ..	4	..	1	25·0
Ammoniated Tinc. Quinine ..	2	..	1	50·0
Boric Ointment .....	11	..	2	18·2
Strong Tincture of Iodine ..	2	..	1	50·0
Castor Oil .....	4	..	..	..
Fluid Magnesia .....	9	..	6	66·7
Lime Water .....	6	..	2	33·3
Red Precipitate Ointment ..	1	..	..	..
Paregoric .....	3	..	..	..
Olive Oil .....	1	..	..	..
Cream of Tartar substitute ..	5	..	2	40·0
Sodium Bicarbonate .....	3	..	..	..
Camphorated Oil .....	4	..	..	..
<b>TOTAL .....</b>	<b>1202</b>	<b>3</b>	<b>67</b>	<b>5·8</b>

The samples may be divided into two sections: "Formal" and "Informal" samples. "Formal" samples are those which are taken in accordance with Section 14 of the Sale of Food and Drugs Act, 1875.

"Informal" samples are those in connection with which the formalities of the Act are not complied with, and in general the seller has no knowledge that the taking of the sample is for official purposes. No legal action under the Sale of Food and Drugs Act can follow the taking of an "Informal" sample.

For further details concerning the taking of informal samples and their analysis the Report for 1915 should be consulted.

The number of samples found to be adulterated was seventy, or 5·8 per cent. This is the highest figure that has been recorded since 1893, when 6·6 per cent of the samples were adulterated, in fact, 3·0 per cent has only once been exceeded (3·6 per cent in 1904) during the past sixteen years. This somewhat serious increase has been brought about by three circumstances. The percentage of milk adulteration has increased from 4·8 per cent for last year to 10·1 per cent for this, this being the highest figure that has been recorded since 1882; a number of samples of drugs have been found to be adulterated; a large number of samples of baking powder have been found to contain arsenic in varying amounts. Full particulars of these matters are given under the respective headings.

Although these figures are not quite so serious as they may appear at first sight, there is no doubt that it will

become increasingly important to watch carefully the whole of the food supplies. With the tremendous advances in prices that have lately taken place, there is greatly increased temptation to tamper with such articles by introducing substances of inferior quality, and the difficulties of manufacture tend to the adoption by the manufacturer of less stringent standards of purity. At the present time, when most firms are working at their full capacity, it is of the greatest importance that it should be possible to obtain pure and wholesome food. It will be necessary therefore to enforce vigorously the requirements of the Food and Drugs Acts.

Comparative figures for adulteration and for the number of samples taken are given in Table 2 for the past seven years.

TABLE 2.

	1910	1911	1912	1913	1914	1915	1916
Percentage of adulteration .....	2.2	2.5	1.8	1.6	2.4	2.5	5.8
Total number of samples .....	956	903	954	944	949	1174	1202
Number of samples per 100,000 persons....	414	390	409	403	407	499	561

Table 3 contains the number of "Formal" and "Informal" samples respectively which have been taken during the last seven years. The relative number of "Informal" samples tends to increase each year, on account of the reasons given in the Report for 1915, as well as the fact that they cost less to take.



TABLE 3.—NUMBER OF FORMAL AND INFORMAL SAMPLES.

	1910	1911	1912	1913	1914	1915	1916
Formal .....	433	415	452	400	368	397	352
Informal.....	523	488	502	544	581	777	850

## MILK.

Three hundred and eighty-six samples of milk were submitted for analysis, of which 39, or 10·1 per cent, were adulterated. This is the highest percentage of milk adulteration which has been recorded since the year 1882, when 19·0 per cent of the samples of milk taken were adulterated. Comparative figures for the number of samples and percentage of adulteration are given in Table 4 for the past seven years.

TABLE 4.—ADULTERATION OF MILK, 1910-16.

	1910	1911	1912	1913	1914	1915	1916
Number of samples ..	397	378	413	355	351	435	386
Percentage of adulteration .....	4·8	4·8	3·6	3·4	3·1	4·8	10·1

The chief cause of this somewhat serious increase in the amount of milk adulteration was a number of slightly adulterated milks taken in the early months of the year, when one or more adulterated samples were obtained from each of several vendors. These samples were rapidly traced to their respective sources ; the remainder of the year was normal, with the exception of certain dirty milks, which are discussed on page 126.

The average composition of the 386 samples of which a full analysis was made is given in Table 5 for each month and for each quarter.

TABLE 5.—AVERAGE COMPOSITION OF MILK, 1916.

Month.	Number of Samples.	Total Solids per cent.	Fat per cent.	Solids-not-fat per cent.
January . . . . .	44	12.18	3.50	8.68
February . . . . .	34			
March . . . . .	26			
April . . . . .	30	12.31	3.46	8.85
May . . . . .	49			
June . . . . .	35			
July . . . . .	36	12.53	3.71	8.82
August . . . . .	11			
September . . . . .	32			
October . . . . .	32	12.70	3.85	8.85
November . . . . .	31			
December . . . . .	26			
TOTAL . . . . .	386	12.41	3.61	8.80

Those figures are not so good as those given in the Report for 1915, namely—fat, 3.78 per cent ; solids-not-fat, 8.84 per cent ; but it must be remembered that these figures include the adulterated samples and, when allowance is made for these, the averages will be considerably raised. There appears to be no falling off in the quality of the milk except in the case of those samples which are wilfully adulterated. Only in one case does the average for any month fall below the limit fixed by the Board of Agriculture, namely, the figure for the solids-not-fat for February; which was 8.48. This very slight deficiency which, by the practice adopted in this laboratory, is not

sufficient to cause a sample to be returned as adulterated, is accounted for by the prevalence of adulterated samples during the month. The figures are additional evidence of the widespread opinion that the legal limit of 3·0 per cent of fat is too low, and that it might be increased to 3·2 or 3·3 per cent, without hardship to farmers or dealers.

For purposes of comparison the figures obtained by the analysis of milk taken in large towns and cities in England are given in Table 6 for several recent years. The figures are taken from the Annual Reports of the Authorities mentioned.

TABLE 6.

Place.	Number of samples.	Total solids per cent.	Fat per cent.	Solids-not fat per cent.
Salford, 1914 . . . . .	196	12·58	3·77	8·81
Salford, 1915 . . . . .	435	12·62	3·78	8·84
Salford, 1916 . . . . .	386	12·41	3·61	8·80
Portsmouth, 1914 . . . . .	530	12·25	3·42	8·82
Portsmouth, 1915 . . . . .	549	12·12	3·37	8·75
Liverpool, 1914 . . . . .	1182	12·26	3·52	8·74
Bristol, 1914 . . . . .	653	12·38	3·56	8·82
Bristol, 1915 . . . . .	663	12·37	3·57	8·80
Hull, 1910 . . . . .	550	12·47	3·63	8·84
Hull, 1915 . . . . .	235	12·20	3·46	8·74
Birmingham, 1912 . . . . .	1616	12·33	3·57	8·76
Birmingham, 1915 . . . . .	1799	12·28	3·61	8·67
Richmond's figures { 1910 . . . . .	19807	12·62	3·73	8·89
{ 1913 . . . . .	..	12·48	3·67	8·81

All these samples were tested for preservatives with (except in regard to those samples mentioned on page 115) negative results.

Forty-four samples were taken at Ladywell Sanatorium during the year. This milk is supplied under a contract,



the terms of which are : " Milk containing not less than 3·5 per cent of fat." Forty-two samples were satisfactory in their composition, but two were not only below the terms of the contract, but were classed as adulterated. Particulars of these two samples, Nos. 4,432 and 5,057, are given on pages 122 and 123.

Ten samples were taken from the Hope Auxiliary Military Hospital during the month of December ; they were found to be genuine.

Observations have been made during the year as to the number of samples containing added colouring matter. Seventy-five samples have contained a sufficient quantity to make them obviously coloured by artificial means, and it cannot be considered satisfactory that nearly one-fifth of the samples examined are coloured in this way. It cannot be too clearly stated, nor too often reiterated, that natural milk has never a deep golden yellow colour, except perhaps in some breeds of Jersey cows, and that genuine milk is usually almost white, or at most has only a pale yellow colour, the natural colour being somewhat deeper in May, June, and July, when the cows are at grass.

The practice of colouring milk is objectionable, on the grounds, firstly, because a foreign body is added which is of no value, even if it does not do actual harm ; secondly, because it enables dishonest milk dealers to give an artificial appearance of richness to poor or adulterated milk.

Full particulars of those samples of milk which were found to be adulterated are given in Table 7.



TABLE 7.—ADULTERATED SAMPLES OF MILK.

No. of Sample	Nature of Adulteration.	Action taken.	Remarks.
4406	Deficient of 14% of solids-not-fat and 20% of fat.	Caution .....	
4413	Deficient of 2½% of solids-not-fat	} Fined £4. ....	Same farmer.
4414	Deficient of 4½% of solids-not-fat		
4422	Deficient of 3½% of solids-not-fat		
4423	Deficient of 15% of solids-not-fat		
4432	Deficient of 8% of solids-not-fat	Caution .....	Wholesale dealer of 4406.
4459	Deficient of 7% of solids-not-fat and 6% of fat.	Fined £1 .....	
4470	Deficient of 4½% of solids-not-fat	Cautioned .....	Same wholesale dealer as 4406.
4497	Deficient of 10% of fat and contained 15 grains of boric acid per gallon.	Cautioned .....	} Same wholesale dealer.
4504	Contained 30 grains of boric acid per gallon.	Cautioned .....	
4505	Contained 30 grains of boric acid per gallon.	Cautioned .....	
4524	Contained 30 grains of boric acid per gallon.	Cautioned .....	
4520	Deficient of 3% of fat .....	Cautioned .....	} Same wholesale dealer.
4531	Deficient of 10% of fat .....	Cautioned .....	
4570	Deficient of 3% of fat .....	Cautioned .....	
4566	Deficient of 3% of fat .....	Cautioned .....	
4546	Deficient of 4½% of solids-not-fat	Cautioned .....	} Wholesale dealer of 4520 & 4531.
4577	Deficient of 6% of solids-not-fat	Cautioned .....	
4551	Deficient of 2½% of solids-not-fat	Cautioned .....	} Same wholesale dealer.
4605	Deficient of 1% of solids-not-fat and 3% of fat	Cautioned .....	

TABLE 7.—ADULTERATED SAMPLES OF MILK.—*Continued.*

No. of Sample	Nature of Adulteration.	Action taken.	Remarks.
4642	Deficient of $2\frac{1}{2}\%$ of solids-not-fat	No action .....	Same farmer. Farm supplying 4605, &c.
4643	Deficient of $2\frac{1}{2}\%$ of solids-not-fat	No action .....	
4644	Deficient of $3\frac{1}{2}\%$ of solids-not-fat	No action .....	
4645	Deficient of $3\frac{1}{2}\%$ of solids-not-fat	No action .....	
4646	Deficient of $2\frac{1}{2}\%$ of solids-not-fat	No action .....	
4647	Deficient of $3\frac{1}{2}\%$ of solids-not-fat	No action .....	
4561	Deficient of $2\frac{1}{2}\%$ of solids-not-fat	Cautioned .....	Shop supplied 4613.
4568	Deficient of 15% of fat .....	Cautioned .....	
4610	Deficient of 10% of fat .....	Cautioned .....	
4613	Deficient of 3% of fat .....	Cautioned .....	Subsequent samples genuine.
4765	Deficient of 13% of fat .....	Fined £2 .....	
4871	Deficient of 6% of fat .....	Caution .....	
5004	Deficient of 16% of fat .....	Fined £1 .....	
5050	Deficient of 6% of fat .....	No action .....	
5057	Deficient of 3% of fat .....	Cautioned .....	
5114	Deficient of 26% of fat .....	Fined 10s. ....	
5503	Contained 6 parts per 100,000 by volume of sediment.	Cautioned .....	
5510	Contained 6 parts per 100,000 by volume of sediment.	Cautioned .....	
5516	Contained 10 parts per 100,000 by volume of sediment.	Cautioned .....	

Sample 4406 was served by a small shop—the wholesale dealer supplying this shop supplied sample 4432 to Ladywell Sanatorium. The milk was obtained from a

farmer sending milk to a Manchester Station, and thus your Inspector had no power to take a formal sample on delivery—the informal samples were, however, found to be adulterated. The farmer was reported to the Manchester Authorities, who caused samples to be taken. In the meantime, the farmer had got to know that his milk was suspected, so that the samples taken in Manchester were found to be genuine. No action could be taken against the farmer, but the Salford vendors were cautioned as to their legal liability.

Samples 4413, 4414, 4422, and 4423 were obtained at a Railway Station on each of two successive days. The farmer was prosecuted and fines amounting to £4 were inflicted.

Sample 4459 was obtained from a small shop. Subsequent samples were genuine, as also were the samples from the wholesale dealer. The vendor was prosecuted and fined £1.

Sample 4470 was obtained from a shop supplied by the wholesale dealer supplying 4406 and 4432—for the reasons stated above this vendor was cautioned.

Samples 4497, 4504, and 4524 were all obtained from a shop supplied by the vendor of sample 4505. The wholesale dealer, who was personally cautioned by the Medical Officer of Health, explained that he had to buy milk on account of shortness, and that he had sold it exactly as he had bought it. Subsequent samples were genuine. Some attempts were made to discover the origin of these preserved milks, but without success; it is satisfactory to find, however, that there have been no other cases.



Samples 4520, 4531, 4566, and 4570 were all supplied by the wholesale dealer from whom samples 4546 and 4577 were obtained. The milks were delivered by the farmer in Manchester, and informal samples were found to be adulterated. Formal samples were taken by the Manchester Authorities, but these were found to be genuine.

Sample 4561 was obtained from a shop from which no other adulterated samples were obtained. The vendor was cautioned.

Samples 4551 and 4605 were supplied by the wholesale dealer from whom sample 4616 was obtained. Sample 4616 was genuine. This wholesale dealer had some of his farmer's samples examined privately, and some of these were found to be slightly adulterated. Samples 4642, 4643, 4644, 4645, 4646, and 4647 were then obtained from this farmer, but six other samples were genuine. This farmer was visited, and the "appeal-to-cow" sample contained 8.5 per cent of solids-not-fat being rather inferior to some of the genuine samples. Taking into account the smallness of the adulteration and also the fact that the farmer's Salford contract had expired and was not going to be renewed, no action was taken.

Samples 4568 and 4610 were obtained from shops both of which were supplied by the vendor of 4613. All three vendors were cautioned.

Sample 5050 was obtained from a shop. It was taken from the bottom of a vessel containing the previous day's milk. Previous samples had been genuine; subsequent samples were found to be genuine. No action was taken beyond personal caution by the Inspector.

Samples 5503, 5510, and 5516, which contained large amounts of sediment, are discussed on page 128.

The other samples, *e.g.*, 4765, 4871, 5004, 5057, and 5114, do not require special mention.

That the increase in milk adulteration noticed in Salford has been fairly general is shown by the figures given in Table 8, where the percentage of adulteration for various towns is given for the past six years.

TABLE 8.—MILK ADULTERATION, 1910-1915.

	1910	1911	1912	1913	1914	1915
Salford .....	2.2	2.5	1.8	1.6	2.4	4.8
Liverpool .....	19.1	21.7	19.3	16.2	17.6	*
Birmingham .....	13.5	9.3	8.2	8.2	9.0	9.9
Portsmouth .....	8.2	6.2	5.6	3.4	9.2	12.0
Bristol .....	*	*	12.6	13.1	9.2	10.3

\* Not available.

### DIRT IN MILK.

Two hundred and ninety-eight samples of milk have been examined for sediment. As explained in the report for 1915, the method used is to allow 500 ccs. of milk to stand for twelve hours in a cylindrical vessel, the bottom of which is drawn out and fitted with a tube graduated in 0.01 cc. The volume of sediment is read off directly, and, multiplied by two, gives the parts per 100,000 by volume of sediment present in the milk.

Of the 298 samples examined, fifty-eight did not give any measurable amount of sediment, 103 gave sediment of 0.5 per 100,000, 82 gave 1.0, 20 gave 1.5, 25 gave 2.0,

six gave 3·0, one gave 5·0, two gave 6·0, and one gave 10·0. These figures are arranged in Table 9, together with the comparative figures for 1915.

TABLE 9.—DIRT IN MILK.

Dirt parts per 100,000.	1915.		1916.	
	No. of samples.	Percentage of whole.	No. of samples.	Percentage of whole.
0·0	56	14·4	58	19·5
0·5	167	42·8	103	34·6
1·0	62	15·9	82	2·75
1·5	29	7·4	20	6·7
2·0	32	8·2	25	8·4
3·0	20	5·1	6	2·0
4·0	14	3·6	..	..
5·0	6	1·5	1	0·3
6·0	3	0·8	2	0·7
7·0	1	0·3	..	..
10·0	..	..	1	0·3
Total .....	390	100·0	298	100·0

There has been some improvement in the cleanliness of the milks during the year as compared with the previous year, for whilst, in 1915, 80·5 per cent of the samples contained less than two volumes of dirt per 100,000, in 1916 88·3 per cent of the samples contained less than this amount, and further, 81·6 per cent did not contain more than 1·0 volume per 100,000 as compared with 73·1 per cent in 1915.

In spite of this improvement, however, it cannot be considered satisfactory that 11·7 per cent of the samples examined contained 2·0 volumes per 100,000, or more, of sediment, which is often of a most objectionable character.



The time has come when, in the interest of the public health, those vendors who sell dirty milk must be forced to adopt those methods of cleanliness which have already been adopted by their more careful competitors.

The sediment found is, in many cases, cow-dung, and of the danger of this to infant life it is scarcely possible to speak too strongly. It is frequently stated that it is quite easy to get over this difficulty by passing the milk through a fine sieve. This is, however, entirely erroneous, and it is a most dangerous doctrine—in fact, the use of the sieve might do harm in removing the index of pollution.

The harm likely to be caused by the cow-dung is due to the infection of the milk by the bacteria of various diseases such as diarrhoea, which multiply rapidly in the milk. Subsequent removal of the cow-dung by mechanical means will not, of course, remove the disease-producing bacteria.

For the present, those samples which give a sediment of more than five volumes per 100,000 are being called adulterated, although, from the figures given above, this is obviously a very lenient standard and one which must subsequently be made more severe. Three samples have contained more than this amount, 5503, 5510, and 5516, which contained six, six, and ten volumes per 100,000 respectively, the sediment consisting largely of cow-dung. The three vendors were specially cautioned by the Medical Officer of Health as to the serious nature of the offence.

#### BUTTER, MARGARINE.

One hundred and thirty-four samples of butter have been examined during the year, of which two were

private samples. Of these, two, or 1·5 per cent, have been adulterated.

Informal sample 4495 consisted entirely of margarine. A subsequent formal sample, 4503, from the same shop had the same composition. The vendor of the article explained that she bought it as butter and sold it as she bought it. The wholesale dealer explained that he had been in the habit of supplying this shop with butter, but owing to the great increase in price he had sent her best margarine, charging the market price. The invoice, however, was not sent with the material but was sent on later by post, the samples being taken between the delivery of the margarine and the receipt of the invoice. It was decided, on legal grounds, that this was not a case where prosecution was advisable. Both the wholesale dealer and the shopkeeper were specially cautioned.

Each sample has been tested for preservatives, and a boric preservative has been found in 132 cases. The Local Government Board requires that the actual amount of preservative shall be determined in each case. The results are given in the following table, the boric preservative being expressed as boric acid.

TABLE 10.—BORIC ACID IN BUTTER.

Amount.	No. of samples.	Per cent of whole.
0·5%	0	0·0
0·4%	3	2·3
0·3%	2	1·5
0·2%	12	9·1
0·1%	14	10·6
0·0%	101	76·5



From these figures and from those of the previous year it would appear that the standard, suggested by the Departmental Committee on Preservatives in Food, of not more than 0·5 per cent of boric acid, is excessive. It would appear that an allowance of 0·3 per cent is quite sufficient for trade purposes.

The amount of water has been determined in each sample, but only in one case has the percentage exceeded sixteen. In this case, where 18·5 per cent of water was present, the package was labelled "Irish Salt Firkin Butter, containing about 18 to 24 per cent of water"; it was passed as genuine.

Sixty-one samples of margarine have been examined, a much larger number than in any previous year. This increase in the number of samples examined has been due to its greatly increased sale in consequence of the high price of butter. It is obviously necessary to keep a careful watch on any such manufactured article; but all those samples examined have been of satisfactory quality.

An account of the manufacture of margarine was given in the Report for 1915, so that it is not now necessary to say anything on this point, but the following extract, taken from a recent publication of the Local Government Board, may be of interest:—

"From time to time investigations have been undertaken with a view to ascertaining the comparative nutritive values of margarine and butter. The general conclusion which has been arrived at is that there is no appreciable difference between the nutritive values of these fatty foods. Other experiments have shown that margarine, butter, lard, and coconut oil are equally well



absorbed. The usual amount of these fatty matters absorbed is from 95 to 98 per cent of that ingested. It is true that more vegetable oils and fats are being used nowadays than formerly in the manufacture of margarine, but there is no evidence that these are less nutritious than animal fats. All the evidence available tends to show that there is little or no difference in this respect between fats and oils obtained from animal or vegetable sources. All fats used for margarine making, whether they are of animal or vegetable origin, must be practically odourless and tasteless; this implies a high degree of refinement and purity. The advantage which butter possesses over margarine is æsthetic rather than dietetic, and the difference in price between these two represents what the consumer is willing to pay for luxury."

The main legal requirements in connection with the sale of margarine are—That it shall be sold in a wrapper on which the word margarine is printed in capital block letters not less than half-an-inch long and distinctly legible; that it shall not contain more than 16 per cent of water, and that the fat shall not contain more than 10 per cent of butter fat.

The Departmental Committee on preservatives in food recommend that the only preservative allowed to be used should be borax or boric acid in amount not exceeding 0·5 per cent calculated as boric acid.

Two samples of margarine bought during the year were improperly labelled. In the case of sample 5126 a quarter of a pound had been asked for, and this was served by cutting a half-pound package, which was properly labelled, into two portions without removing the paper;

this sample was therefore labelled "Marga." Sample 5372 had been labelled by means of a rubber stamp ; it was indistinct, so that several of the letters could not be seen. Both vendors were specially cautioned by the Medical Officer of Health.

All the samples had correct composition. The water contents varied from 7·0 to 13·0 per cent, with an average of 11·7 per cent. Each sample contained boric preservative, but none contained more than 0·3 per cent calculated as boric acid, thus bearing out the limit suggested on page 130.

Seven of the samples contained 0·1 per cent, twenty-seven contained 0·2 per cent, whilst twenty-seven contained 0·3 per cent of the boric acid respectively.

Six of the samples were free from coconut or palm kernel oils, but each of the other samples contained one or both of these oils in varying properties. The largest amount found was 90 per cent of palm kernel oil in sample 4867, the lowest was 11 per cent of coconut oil in sample 5246.

During the past year a considerable amount of attention has been given to the problem of differentiating between coconut and palm kernel oils in mixtures ; it is hoped that publication of much of this may take place during the present year.

#### CHEESE, LARD.

Two hundred and thirty-nine samples of cheese have been examined, and all have been passed as genuine, the fat in each case being pure milk fat.



The amount of fat in some cases has again been very small (in three cases under 10 per cent), indicating that these samples are not made from whole milk. Action, in such cases, is impossible until the Board of Agriculture make some regulations as to what shall, or shall not, be sold as "cheese."

The one hundred and nine samples of lard have all been passed as genuine. They were free from water and rancidity. No foreign fat was detected in any case. In accordance with the wishes of the Local Government Board, as set out in their circular of May, 1910, special search has been made for the presence of paraffin. None has been detected.

#### CEREAL FOODS.

Twenty-four samples of plain flour have been examined during the year, and all have been returned as genuine. The mineral matter has varied between 0.42 and 0.67 per cent, and in each case foreign starch has been looked for with negative results.

As was mentioned in the Report for 1915, the sulphates have been determined in each sample with a view to fixing the amount of sulphate natural to flour. In all, sixty-four different samples have been examined by the method of Thomson (*Analyst*, 1914, 39, 526), and the amount of sulphates found, calculated as Calcium Sulphate, has varied between 0.012 and 0.034 per cent—the average being 0.024 per cent. Tests were made for the presence of persulphate with negative results in each case. No evidence has been obtained of the addition of mineral matter.



Twenty-one samples of self-raising flour have been examined, and one sample, or 4·8 per cent, was found to be adulterated. This sample, No. 5540, was devoid of self-raising ingredients. Both previous and subsequent samples from the same maker were found to be genuine, and on enquiry it was found that a mistake in packing had taken place; the vendors were cautioned.

Twelve of the samples of self-raising flour contained acid calcium phosphate as one of the self-raising flour ingredients. Acid calcium phosphate is liable to be contaminated with large quantities of calcium sulphate, but the samples examined have been of reasonable purity.

Persulphates have not been present in any of the samples of flour examined.

Of the fifty-four samples of rice examined ten, or 18·5 per cent, had been faced with a mineral resembling talc. This is an improvement on last year, when 25·0 per cent were faced in this manner. The mineral matter of the unfaced samples has varied from 0·24 to 0·45 per cent. The amount of facing has varied from 0·05 to 0·38 per cent. In each case therefore the amount present has been considerably less than the suggested limit contained in the Report of the Local Government Board of 1909. In previous reports the writer has stated that, in his opinion, this limit is too high.

The single sample of ground rice contained 0·77 per cent of ash and 0·39 per cent of added mineral matter insoluble in 3 N hydrochloric acid; it was obviously prepared from a faced whole rice.

Twenty-two samples of "sago" and four of tapioca have consisted of tapioca. They have been free from

mineral facing and added mineral matter, the ash varying from 0·04 to 0·20 per cent.

The seven samples of pearl barley have all been free from mineral facing and from excess of mineral matter. The ash has varied from 0·79 to 1·24 per cent, and the ash insoluble in 3 N hydrochloric acid from 0·02 to 0·07 per cent.

The eighteen samples of bread were of satisfactory composition.

#### ARSENIC IN BAKING POWDERS, ETC.

On the 16th of October a letter was sent to the various Local Authorities by the Chief Inspector of Foods of the Local Government Board informing them that serious quantities of arsenic had been found in a baking powder, and that the contamination had been traced to the acid phosphate used as an ingredient of the baking powder. The Local Authorities were asked to pay special attention to samples of baking powder, egg powder, cream of tartar substitute, self-raising flour, and the like.

As a result of this letter, thirty-three samples of baking powder, eight samples of egg powder, and three samples of cream of tartar substitute were obtained by the Food and Drugs Inspector informally, and of these eleven baking powders, two egg powders, and two cream of tartar substitutes have been found to be adulterated. In addition to the above samples taken by the Food and Drugs Inspector, twelve samples of baking powder, two samples of egg powder, and two samples of cream of tartar substitute were taken in connection with them, some of them being supplied by the makers. Of these, ten samples



of baking powder and both samples of egg powder and cream of tartar substitute were adulterated. Altogether sixty-two samples were taken in connection with the investigation, and of these twenty-nine, or 46·8 per cent, were found to be adulterated; but several of these samples were duplicate samples from vendors known to be selling an adulterated article. The percentage of adulteration amongst unconnected samples works out at 34·1 per cent.

Baking powder is defined by Moor as “a salt or mixture of salts, with or without a diluent such as starch, which evolves carbon dioxide when moistened and on heating.” Egg powder is usually baking powder with a little colouring matter added, although, in some cases, the solids of separated milk are added to increase the nitrogen content. The best baking powder formally consisted of a mixture of bicarbonate of soda with cream of tartar or (and) tartaric acid with a filling of about 20·0 per cent of rice starch, or, in some cases, milk sugar—the object of the filling being to render the powder more easy of mixing with the flour and also to hinder its decomposition by the moisture of the air.

Owing to the high price of tartaric acid and tartrates, various suggestions have been made for substituting this acid by other acid bodies, but generally speaking, the only one found to be at all satisfactory is acid calcium phosphate, or calcium superphosphate, as it is called. It is in this acid calcium phosphate that the arsenic exists that has lately been found in baking powders—the arsenic being introduced from the sulphuric acid used in its manufacture.



Two reports on the use of acid calcium phosphate in foods have been made to the Local Government by Dr. J. M. Hamil (Reports to the Local Government Board on Public Health and Medical Subjects : Food Reports Nos. 12 and 13), and in both of these attention has been called to the possibility of contamination of this product with arsenic.

The raw material used in the manufacture of acid calcium phosphate is bone ash, which is first calcined at a high temperature to ensure a product of white colour. The bone ash is then treated with acid. "The acid used may be pure phosphoric acid (made by burning phosphorus in air in the presence of water) or commercial phosphoric acid made from bone ash and sulphuric acid, or simply sulphuric acid. Mixtures of sulphuric and phosphoric acids may also be employed."

It is thus seen that where sulphuric acid is used in any stage of the process there is a possibility of contamination with arsenic unless a reasonably pure acid is used ; where crude sulphuric acid is used the final product must, of necessity, be more or less contaminated with arsenic.

The Royal Commission on Arsenical Poisoning, in their final Report, 1903, recommended that no substance used in food, whether intended for consumption alone, or mixed with other substances, should contain more than one-hundredth grain of arsenic per pound, if solid, or per gallon if liquid. One-hundredth grain per pound is equivalent to 1.4 parts per million.

The occurrence of arsenic in tartaric acid and cream of tartar is dealt with in the Report to the Local Government

Board by Dr. A. W. J. Fadden (Reports to the Local Government Board on Public Health and Medical Subjects: Food Report No. 2). The limit of arsenic suggested is again 1·4 parts per million of arsenious oxide.

The B.P., 1914, gives 1·4 per million as the limit for arsenious acid in tartaric acid and two parts per million for the limit in cream of tartar.

Taking these various suggestions into account—it would seem reasonable to require that samples of acid calcium phosphate for use in foods should not contain more than two parts per million of arsenious acid. For the purposes of this Report samples of baking powder have been classed as adulterated when they contained more than two parts per million of arsenious acid, but, of course, this would represent only about one-half of the amount of arsenic present in the original acid phosphate.

The results obtained on those samples found to be adulterated are given below.

Baking powder No. 5384 contained twenty-five parts of arsenious oxide per million ( $\text{As}_2\text{O}_3$ ) and 14·2 per cent of calcium sulphate. Six samples subsequently obtained from the same dealer contained 40, 40, 60, 40, 50, and 20 parts of arsenious oxide per million.

Baking powder No. 5407 contained four parts of arsenious oxide per million. This was manufactured by the firm manufacturing No. 5384, &c.

Egg powder No. 5385 contained four parts of arsenious oxide per million. This was also manufactured by the firm manufacturing No. 5384, &c.



Baking powder No. 5416 contained ten parts of arsenious oxide per million. The works where this preparation was mixed were visited by the writer, who took two samples of baking powder, each of which contained about one part of arsenious oxide per million, and one sample of acid phosphate, which contained five parts per million.

Baking powder No. 5431 contained four parts of arsenious oxide per million. Baking powder No. 5445 contained three parts per million of arsenious oxide. Baking powder No. 5447 contained four parts per million of arsenious oxide. Baking powder No. 5449 contained twelve parts per million of arsenious oxide. Baking powder No. 5450 contained three parts of arsenious oxide. Baking powder No. 5444 contained twenty-five parts of arsenious acid. Baking powder No. 5436 contained five parts per million of arsenious oxide. Baking powder No. 5437 contained five parts per million.

Cream of tartar substitute No. 5439 contained twelve parts per million of arsenious oxide. Egg powder No. 5386 contained 110 parts per million of arsenious oxide. Two samples from the same source both contained 110 parts per million of arsenious oxide.

Cream of tartar substitute No. 5429 contained five parts per million of arsenious oxide.

The whole of the firms supplying these adulterated articles were specially cautioned. In all cases regret was shown at the occurrence, which was due to ignorance, and promises were given that care would be taken in future to exclude contaminated material.



## MISCELLANEOUS FOODS.

The ten samples of sugar were genuine, as also were the two samples of coffee, the sample of syrup, and the sample of chocolate.

The total ash of the two samples of pepper was 1·64 per cent and 0·91 per cent, practically all of which was soluble in hydrochloric acid. The ash soluble in water was 0·79 and 0·11 per cent respectively. The microscopic appearance in both cases was normal.

The four samples of cornflour contained from 0·14 to 0·57 per cent of ash, all of which was soluble in 3N hydrochloric acid. The microscopic appearance was normal in each case.

## DRUGS.

Fifty-two samples of drugs have been examined, and thirteen, or 25·0 per cent, were returned as adulterated. This must be looked upon as serious, as all the adulterated samples were obtained from shops owned by qualified pharmacists; the public expects, and it would seem to be reasonable, that the goods supplied by qualified men shall be of superior quality and absolutely above suspicion. It is true that some of the samples (*e.g.*, lime-water and fluid magnesia) are liable to deterioration if carelessly stored, but these facts ought to be known to the qualified men, who should take steps to see that such drugs are carefully handled. It is in the handling of such substances that the art of the pharmacist should be evident, and it can only be inferred that great carelessness has been shown.

Taken in connection with the report on prescriptions taken, which is given below, the matter has a serious aspect, and unless there is an immediate improvement in the quality of the drugs supplied, more drastic measures will have to be taken.

Two samples of cream of tartar were found to be free from excess of arsenic and lead and to be genuine in other respects.

Three samples of white precipitate ointment were found to be genuine. Sample 5111 was found to contain twice the correct amount of white precipitate. It had obviously been made to the formula of the 1898 Pharmacopœia, which required 10 per cent of white precipitate. The Pharmacopœia of 1914 only requires 5 per cent.

The two samples of ammoniated tincture of quinine were obtained from the same vendor. The first sample (No. 5104) was deficient of 25 per cent of quinine; the second was genuine. In this case the vendor was personally cautioned—a mistake had occurred in dispensing, due to temporary assistance.

Nine samples of boric acid ointment were genuine; two samples (Nos. 4620 and 4648) obtained from the same vendor were deficient of 27 per cent of boric acid. Formal samples of boric acid ointment, white precipitate ointment, and red precipitate ointment bought at the same shop were found to be genuine.

Strong tincture of iodine, No. 5105, was found to contain an excess of 13 per cent of iodine. No. 5181, a formal sample taken from the same shop, was found to be genuine.

Nine samples of fluid magnesia were examined, and of these no less than six were returned as adulterated. No. 5109 was deficient of at least 25 per cent of magnesia ; a subsequent formal sample was genuine. No. 5110 was deficient of at least 40 per cent of magnesia ; this was bought from the vendor of white precipitate ointment (No. 5111). A subsequent formal sample was genuine. No. 5130 was deficient of at least 25 per cent of magnesia ; a formal sample from the same vendor (No. 5191) was deficient of at least 47 per cent of magnesia. No. 5132 was deficient of at least 70 per cent of magnesia ; a formal sample from the same vendor (No. 5184) was deficient of at least 35 per cent of magnesia.

Of the six samples of lime-water examined, two, obtained from the same vendor, were adulterated. No. 5106 was deficient of 75 per cent of lime ; No. 5179, a formal sample, was deficient of 70 per cent of lime.

The other samples of drugs were of average quality, and do not call for special attention.

## 2. Samples under the Milk and Cream Regulations, 1912.

### 1. MILK AND CREAM NOT SOLD AS PRESERVED CREAM.

	(a) No. of samples examined for the presence of a preservative.		(b) No. in which a preservative was reported to be present.
Milk .....	386	....	3
Cream .....	0	....	0



The three samples of milk containing boric preservative are dealt with on page 122 of this Report.

## 2. CREAM SOLD AS PRESERVED CREAM.

(a)—(1) Correct statements made .....	2
(2) Statements incorrect .....	0
	<hr/>
Total .....	2

(b) Determinations made of milk fat in cream sold as preserved cream—

(1) Above 35 per cent. ....	2
(2) Below 35 per cent. ....	0
	<hr/>
(c) Nil.	2
(d) Nil.	

## 3. THICKENING SUBSTANCES.

No evidence of the addition of any thickening substances was obtained.

## 4. REMARKS.

The fat content of the above two samples of preserved cream was 50 per cent and 51 per cent.

## 3.—Miscellaneous Samples.

Fifty-five samples have been examined for various Corporation departments during the year. These have included eleven samples of tripe and tripe dressings, nine samples of horse flesh, five samples of disinfectant, seven samples of dried milk, and one of unsweetened condensed milk. The other samples examined have been milks, baking powders, egg powders, self-raising flours, &c.

The sample of unsweetened condensed milk contained 9·2 per cent of fat, 7·8 per cent of proteins, 1·8 per cent of ash, and 11·1 per cent of lactose.

The seven samples of dried milk had the following composition :—

	1	2	3	4	5	6	7
Fat .....	13·8	12·6	28·6	26·0	15·8	30·4	23·6
Lactose .....	43·7	44·5	36·4	34·8	42·5	33·6	48·8
Proteins ....	28·1	28·3	25·7	27·0	28·9	25·2	20·9
Ash .....	6·6	6·8	5·8	6·6	7·4	5·7	4·9
Water .....	7·8	7·8	3·5	5·6	5·4	5·1	1·8
	100·0	100·0	100·0	100·0	100·0	100·0	100·0

Nos. 1, 2, and 5 were sold as “half cream.” No. 2 was the same make as No. 1, but compressed into tablet form, and the price appeared to be excessive, as it worked out at 7s. 2d. per pound, whilst the price for No. 1 was 3s. 4d. per pound and that for No. 5 1s. 9d. per pound.

Nos. 4 and 5 contained more ash than would be expected from dried milk, and evidently the proteins had been treated with soda to increase their solubility.

No. 7 was sold as a milk food for infants. The ash, proteins, and fat are in the ratio that one would expect from an ordinary cow's milk, but the lactose is much higher. The food was probably prepared by incorporating an excess of milk sugar with an ordinary milk powder. In the following table the composition of a

dilution of the sample with 6·7 parts of water is compared with average cow's milk and with human milk.

	Dilution with 6·7 parts of water.	Cows' Milk.	Human Milk.	
			Richmond.	Elsdon.
Fat .....	3·1	3·7	3·3	3·1
Lactose .....	6·3	4·7	6·8	7·2
Proteins .....	2·7	3·5	1·5	1·2
Ash .....	0·6	0·7	0·2	0·2
Water .....	87·3	87·4	88·2	88·3
	100·0	100·0	100·0	100·0

During the month of September fourteen prescriptions were taken in connection with the Insurance Act in collaboration with the Insurance Committee; of these samples six were unsatisfactory. A separate report has been made on these samples, and the matter has been dealt with by the Insurance Committee.

Further work in this direction is contemplated, as it is obviously necessary to keep the standard of drugs supplied to insured persons as high as possible.





SECTION VI.

CHILD WELFARE AND SUPERVISION OF  
MIDWIVES.





## SECTION VI.

## CHILD WELFARE AND SUPERVISION OF MIDWIVES.

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The staff consists of a Lady Medical Officer, eight lady Health Visitors, and a lady clerk. It is the duty of the Medical Officer to conduct all examinations of mothers and babies attending at the Centre and at the Guilds, and, in addition, to supervise the visiting and conduct the administrative work of the Department. Each Health Visitor is allotted a district, to the visiting of which most of her time is devoted, and a record is kept of all details connected with the sanitary state of the house and the health of its occupants.

In addition, the Health Visitors are instructed to assist in the work carried on at the various Mothers' Guilds.

### **The Work of the Health Visitors.**

During the year 1916 seven Wards have been visited by the Health Visitors, namely, Trafford, Ordsall, Charles-town, Islington, St. Thomas', Crescent, and Trinity. St. Paul's Ward has been visited since October, 1916.

The following table gives the number of visits paid by the Health Visitors in the various Wards, the number of

expectant mothers and babies visited, and the sanitary conditions reported during 1916 :—

TABLE C.W. 1.

WARDS.	Total number of visits.	Number of babies visited.	Number of expectant mothers visited.	Houses dirty.	Houses lime-washed.
Trafford .....	2138	269	124	18	86
St. Thomas .....	2059	180	99	19	15
Crescent .....	3426	243	125	7	76
Islington .....	3214	222	72	45	50
Charlestown .....	4081	434	213	36	88
Trinity .....	4980	218	165	72	149
Ordsall .....	2177	319	59	22	393
St. Paul's (Oct.-Dec.)	177	42	1	1	..
Totals .....	22252	1627	858	220	857

One thousand one hundred and twenty visits have been made in Salford by the Visitor employed by the Manchester Jewish Ladies' Visiting Association.

### The Mothers' Guilds.

There are three Mothers' Guilds in the Borough, namely, Haworth Hall, Rosamond Street, and John Street Hall Guilds. At each of these, owing to the generosity of private persons, expectant and nursing mothers are able to obtain dinners on every full working day of the week at a nominal price. At each an afternoon is set apart for the weighing of babies under twelve months, and at Rosamond Street Guild a second afternoon

is devoted to the weighing of children from one to five years old. All babies and children are medically examined at their first attendance, and periodically afterwards; and, in addition, any babies who are not gaining satisfactorily or are ailing are examined; expectant mothers who are in need of advice are also seen.

On other days practical classes and demonstrations are held in sewing, cookery, and the general hygiene of pregnancy and of the infant. The Health Visitor for the district in which the Guild is situated helps with the classes or cares for the babies, so that the mothers may enjoy the benefit of the lessons undisturbed.

There has been increasing interest in these classes during the past year, the attendances in some cases having been almost double those of the previous year.

The following figures show the number of attendances of babies on weighing days and the number of dinners served at the various Guilds during the year 1916 :—

TABLE C.W. 2.

MOTHERS' GUILD.	No. of Children attending weighings.		Total No. of attendances at weighings.	No. of mothers attending for dinners.		Total No. of dinners served.	
	Under 12 months.	Over 12 months.		Ex-pectant	Nursing	To Ex-pectant M'thers	To Nursing M'thers
Haworth Hall..	221	28	1764	165	75	5447	7967
Rosamond Street . . . . . (two after- noons)	221	93	3033	60	107	1782	5898
John Street ..	176	69	1539	80	128	1048	4587



### The Maternity and Child Welfare Centre.

The Centre in Regent Road was opened at the end of October, 1915, its object being to provide a clinic at which expectant and other mothers could obtain medical advice for themselves and for their children from birth to school age, and thus to ensure that skilled attention should be available for the child from the time of its conception to the time at which it is passed on to the care of the School Medical Officer. The Centre is open on three mornings a week for children; in December it became necessary to open the Centre on a fourth morning for expectant mothers.

Test feeds were given in thirty-one cases.

Table 3 shows the number of cases examined and the number of consultations held at the Centre and at the Guilds during the year:—

TABLE C.W. 3.

	No. of Cases.					No. of Consultations.				
	1915 cases attending in 1916.	1916 cases.			Totals.	1915 cases.	1916 cases.			Totals.
		Infants.	Children, 1—5 years.	Mothers.			Infants.	Children, 1—5 years.	Mothers.	
Maternity and Child Welfare Centre . . .	24	433	375	114	946	130	1195	862	206	2393
Haworth Hall . . . . .	42	175	15	26	258	175	517	45	51	788
Rosamond Street . . .	41	156	36	9	242	240	463	158	33	894
John Street	26	136	39	28	229	159	390	114	66	729
Total . . .	133	900	465	177	1675	704	2565	1179	356	4804

All cases attending at the Centre have been “ followed up ” in the homes by the Health Visitors, who have helped the patients to carry out the instructions given.

The following tables show the ages and methods of feeding which were being employed in the cases of 882 children under one year, when first seen at the Centre or at the Guilds :—

TABLE C.W. 4.

AGES AND FEEDING OF 882 CHILDREN UNDER ONE YEAR ON REGISTRATION.

	Under 1 month.	1-3 months.	3-6 months.	6-9 months.	9-12 months.	Total.
Breast alone . .	160	263	101	44	19	607
Breast and other foods..	3	26	19	8	9	65
Other foods entirely . . . .	13	70	76	30	21	210
Total . . . . .	176	379	196	82	49	882

TABLE C.W. 5.

TYPES OF FOOD BEING GIVEN TO 208 CHILDREN UNDER ONE YEAR  
AND ENTIRELY ARTIFICIALLY FED ON REGISTRATION.

FOOD.	Under 1 month.	1-3 months.	3-6 months.	6-9 months.	9-12 months.	Total.
Cow's Milk and Water . . . . .	4	23	21	13	11	72
Cow's Milk and Barley Water	1	10	8	3	1	23
Cow's Milk and Boiled Bread	—	3	—	3	—	6
Condensed Milk (Nestlé's) ..	5	15	11	2	2	35
Condensed Milk and Barley Water . . . . .	—	—	4	1	—	5
Dried Milk (Glaxo) . . . .	3	15	18	2	4	42
Patent Foods .	—	4	12	7	2	25

### Day Nurseries, &c.

The Salford Free Kindergarten, which admitted children from  $2\frac{1}{2}$  to  $5\frac{1}{2}$  years old, has become the Salford Day Nursery and Nursery School, and now consists of two departments, a Day Nursery, which admits babies and children up to school age from 6-30 a.m. to 6 p.m. at a charge of sixpence per day, and a Nursery School run



on the lines of the old Free Kindergarten. There is accommodation for 32 infants and children.

A Day Nursery has been opened at 40, Devonshire Street, Broughton, with accommodation for eighteen.

A third Nursery is being equipped at 54, Broad Street, Pendleton, and will be opened early in the New Year.

The Greengate Day Nursery has continued its good work during the year.

All these Institutions are medically supervised by the Medical Officer for Maternity and Child Welfare.

### Midwives Act.

There are 52 midwives on the register in Salford ; three are connected with public institutions, three are not practising, four others are maternity nursing—leaving 42 practising midwives, of whom 39 reside within the Borough.

#### PARTICULARS OF QUALIFICATIONS.

	Bona-fides.	St. Mary's Hospital.	London Obstetrical Society.	Central Midwives Board.	Total.
Practising Midwives .....	8	11	9	14	42
Non-practising Midwives.....	—	1	—	2	3
Maternity Nursing .....	2	—	2	—	4
Institution Nurses .....	1	—	1	1	3
Totals .....	11	12	12	17	52

The midwives are regularly visited, and their books, instruments, &c., inspected by the Lady Inspector, under the supervision of the Medical Officer, and the midwives are encouraged to consult with the Medical Officer when cases of difficulty arise. During the year seven midwives removed from the district and one discontinued practising. Two midwives were newly registered. The total number of births during 1916 was 5,091 ; 3,957 of these, or 78 per cent, were attended by midwives, and 1,134, or 22 per cent, by medical practitioners. In 358 of the confinements attended by doctors, midwives were also engaged to attend as Maternity Nurse. There were 13 cases of puerperal fever notified during the year, of which 7 occurred in the practice of midwives ; seven midwives had one case each. These were thoroughly inquired into, and every care taken to prevent the spread of the disease.

Four midwives were reported to and censured by the Local Supervising Authority for neglecting to comply with the rules of the Central Midwives Board.

Four midwives were suspended and disinfected on account of having been in contact with a notifiable infectious disease other than puerperal fever ; and six midwives having been in contact with non-notifiable infectious disease were instructed to take disinfecting baths at home.

One midwife was suspended from practice through having a septic finger.

The Rules framed by the Central Midwives' Board have been revised this year ; and at a meeting of practising midwives the alterations and additions to Section E, " Directions to Midwives," were explained.

One thousand and fifty-two notifications of calling in medical practitioners have been received, the causes being the following :—

Abnormal Presentations.....	47
Deformed Pelvis .....	14
Antepartum Hæmorrhage .....	29
Placenta Prævia .....	8
Postpartum Hæmorrhage.....	18
Uterine Inertia.....	19
Obstructed labour, or requiring instrumental assistance .....	166
Retained Placenta or Membranes .....	35
Ruptured Perineum .....	174
Rise of Temperature .....	36
Eclampsia .....	1
Premature Birth .....	64
Miscarriage and Abortion .....	9
Inflammation of Eyes .....	173
Other causes relating to Mother .....	89
„ „ „ Child.....	170
Totals	1052

One hundred and eleven still-births and twelve deaths of infants were notified by midwives during the year.

### Ophthalmia Neonatorum.

During the year 1916 61 cases of Ophthalmia Neonatorum were notified, 32 of these being notified or re-notified by the Medical Staff of the Royal Eye Hospital.

Of the 61 cases notified—

52 occurred in the practice of midwives ;

3 occurred in the practice of medical practitioners ;

6 were attended by both doctor and midwife.



This number is a decrease on the previous year of 33 per cent. This is largely due to the greater care taken by the midwives in notifying, and obtaining medical help for cases of "slight inflammation of, or discharge from, the eyes," in compliance with the Rules of the Central Midwives' Board.

The cases are visited by the Inspector of Midwives, who also visits the cases of inflammation of the eyes notified under the Midwives Act.

Of the 61 infants visited two left the Borough, two lost the sight of one eye; 53 infants recovered, whilst four are still under observation.

Four midwives were warned *re* breaches of the Rules under the Midwives Act in connection with Ophthalmia Neonatorum.

CLARA LOMAS-HARRIS, M.B., Ch.B.,

Medical Officer for Maternity and Child  
Welfare.

SECTION VII.

GENERAL WORK OF THE HEALTH  
DEPARTMENT.





## SECTION VII.

GENERAL WORK OF THE HEALTH  
DEPARTMENT.

The Staff of the Department consists of a Chief Inspector, a Veterinary Surgeon, and 13 Inspectors, including one Lady Inspector. The Veterinary Inspector and two Sanitary Inspectors are on Active Service.

SYSTEMATIC INSPECTION AND ABATEMENT OF NUISANCES.—The systematic inspection of the Borough was conducted during the year 1916 on the same lines as in previous years. The result of the inspections may be gathered from a perusal of the "Register of Work Done," which is to be found at the end of this section of the report. It shows that the number of complaints received at the office of the Department was 3,138, as compared with 3,427 received in 1915, also that 19,753 dwelling-houses were inspected during the year. The details of each section of the work will be found under the special heading.

**Housing of the Working Classes.**

The action taken with regard to insanitary houses during the year has resulted in 15 of them being remodelled and one demolished.

Twenty-one new houses have been erected.

### **Alteration of Privy Middens and Pail Closets to Water Closets.**

This alteration, under the 1899 Salford Corporation Act, has been continued. During the year 74 pail closets have been altered to water closets, and the Corporation has contributed £2 per closet towards the cost of these alterations. 13 privy middens have also been converted to water closets entirely at the expense of the owners of the property. Since this work commenced, 21,693 privy middens and 6,441 pail closets have been converted or demolished.

### **Common Lodging Houses.**

There were 25 Common Lodging Houses on the register at the end of the year, including the Model Lodging House in Bloom Street; five are in the Crescent Ward, eleven in Islington, one in Ordsall, one in St. Matthias', one in St. Paul's, three in St. Thomas', and three in Trinity Wards. These houses contain 184 rooms, with 1,181 beds. The average number of beds occupied per night was 855 beds for males and none for females. 1,211 inspections were made during the day time and 32 in the night time. Ten of these houses have been re-registered under Part V. of the Public Health Acts Amendment Act, 1907. Three houses have been transferred to new keepers.

These Lodging Houses have been kept in good and clean condition during the year, and the Bye-laws have been observed. There are some houses registered which are unsuitable for their purpose, but, unfortunately, so long as the keepers avoid offences against the Bye-laws



there is no legal power to revise the Register. The Lodging House accommodation is ample for the needs of the Borough.

### Houses Sub-let in Lodgings.

There are 236 houses let in apartments in the Borough; these contain 1,051 rooms. 36 houses were registered during the year and 58 were discontinued.

The houses referred to under this heading are those where the rent or charge payable by each lodger is less than 7s. per week, and if furnished, 10s. per week.

The registration of these houses gives us power to inspect them at any time. They have been inspected from time to time, and they have received 946 inspections in the day time and 17 inspections at night.

### Seamen's Lodging Houses.

There are 17 Seamen's Lodging Houses in the Borough, containing 69 rooms and 173 beds; this is three more than last year. There have been 26 applications for renewals and new licenses; three of these have been refused, and three have been given up during the year, and three houses struck off the Register. The Bye-laws in force regulating these houses have been carried out, and the houses generally kept in good and clean condition. 533 visits have been made during the day time and 36 visits during the night time.

Three keepers were prosecuted for contravening the Bye-laws, and fines amounting to £7 15s. were imposed, no fines being inflicted in two cases. Three persons were prosecuted for using unlicensed premises as Seamen's



Lodging houses without being registered. In two cases fines amounting to £1 5s. were imposed, the remaining case being dismissed.

### Workshops.

At the end of the year there were 1,079 workshops on the register. These have been regularly inspected by the Lady Inspector of Workshops and by the District Inspectors, the Lady Inspector visiting those workshops where females are employed and the District Inspectors visiting those premises where males only are employed.

One hundred and two defects were found in the workshops, the particulars being given in Table B. The chief defects were defective and unsuitable sanitary accommodation and want of cleanliness, which were found in 19 cases and 33 cases respectively.

Two workshops were found to be overcrowded, but this condition was remedied without the necessity of a notice being served.

In only two instances was the ventilation found to be defective.

*Re* OUTWORKERS.—The women outworkers' premises are visited by the Lady Inspector of Workshops, and those of the men by the District Inspectors.

During the year 339 visits have been paid.

The number of incorrect addresses sent to the Department during the year is very much below the number for previous years, and the inspection of Outworkers' premises has therefore been facilitated.

# Factories, Workshops, Workplaces, and Homework.

## A.—Inspection.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR  
INSPECTORS OF NUISANCES DURING THE YEAR 1916.

Premises.  (1)	Number of		
	Inspections. (2)	Written Notices. (3)	Prosecu- tions. (4)
Factories..... (Including Factory Laundries)...	22	11	..
Workshops ..... Including Workshop Laundries).	1,023	44	..
Workplaces ..... (Other than Outworkers' prem- ises included in Part 3 of this Report).	219	..	..
Total .....	1,264	55	..

\* Including those specified in sections 2, 3, 7, and 8 of the Factory and Workshop Act as remediable under the Public Health Acts.



NATURE OF WORK.	OUTWORKERS' LISTS, SECTION 107.										Number of Inspections of Outworkers' premises.	OUTWORK IN UN- WHOLESOME PREMISES, SECTION 108.			OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110.					
	Lists received from Employers.					Prosecutions.						Instances.	Notices served.	Prosecutions.	Instances.	Orders made, S. 110.	Prosecutions, S.S. 109, 110.			
	Sending twice in the year.		Sending once in the year.		Lists.	Number of Addresses received from other Authorities.		Number of Addresses of Outworkers forwarded to other Authorities.		Notices served on Occupiers as to keeping or sending lists.								Failing to keep inspection or permit lists.	Failing to send lists.	
	Lists.	Con- tractors.	Work- men.	Outworkers.		Con- tractors.	Work- men.													
				(2)				(3)	(4)	(5)										(6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)		
Wearing Apparel—	52	48	160	5	19	32	379	135	..	..	..	339	17	16	..	1	..	..		
1. Making, &c. ....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
2. Cleaning and washing ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Lace, lace curtains and nets..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Artificial flowers .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Nets, other than wire nets...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Tents .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Sacks .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Furniture and upholstery ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Fur pulling .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Feather sorting .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Umbrellas, &c. ....	..	..	..	1	..	1	4	..	..	..	..	4	..	..	..	..	..	..		
Carding, &c., of buttons, &c..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..		
Paper bags and boxes.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Basket making.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Brush making .....	2	..	2	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..		
Racquet and tennis balls ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Stuffed toys .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
File making .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Electro plate .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Cables and chains .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Cart gear.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Locks, latches and keys .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Anchors and grapnels .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Pea picking.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Total .....	54	48	162	6	19	33	384	135	..	..	..	346	17	16	..	1	..	..		

D.—Registered Workshops.

Workshops on the Register (s. 131) at the end of the year. (1)	Number. (2)
Tenement Workshops .....	3
Domestic Workshops .....	207
Laundries .....	26
Workshop Bakehouses.....	263
Other Workshops .....	580
Total number of Workshops on Register.....	1,079

E.—Other Matters.

Class. (1)	Number. (2)
Matters notified to H.M. Inspector of Factories—	
Failure to affix abstract of the Factory and Workshop Act (s. 133) .....	11
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (s. 5).	Notified by H.M. In- spectors ..... 17 Reports (of action taken) sent to H.M. Inspector ..... 23
Other.....	4
Underground Bakehouses (s. 101)—	
Certificates granted during the year .....	..
In use at the end of the year .....	6

F.—ADDITIONAL SANITATION FOR RETAIL BAKEHOUSES,  
SECTIONS 97—102.

Number of such premises in the district, 263.

Note to their sanitary condition. Ground floor bakehouses—Good.

Underground— „ —Satisfactory.

Action taken as to retail bakehouses in 1916, 35.

Action taken.	No. of Defects found.	Notices served.	Legal Pro- ceedings.	Defects remedied.	Remarks.
As to Closets, &c., Sec. 97 . . . . .	1	..	..	1	
As to Water Cisterns, Sec. 97 . . . . .	..	..	..	..	
As to Drain Openings, Sec. 97 . . . . .	..	..	..	..	
As to Limewashing, &c., Sec. 97 ..	26	..	..	24	
As to Sleeping Places, Sec. 100 . . .	..	..	..	..	

Any proceedings under Section 98 as to retail bakehouses sanitarily unfit, Nil.

UNDERGROUND BAKEHOUSES.

Number of such premises in district, 6 certified, and 2 not in use at present.

Number certified by District Council under Section 101 (2) in 1916, Nil.

BAKEHOUSES, 1916.

Registered . . . . .	263
Added to Register . . . . .	14
Discontinued . . . . .	18
Number of Underground Bakehouses Certified by Authority . . . . .	6 and 2 not in use at present.
Total Number of Ovens . . . . .	325
Employees—Males . . . . .	215
Females . . . . .	310
Notices Served . . . . .	..



### Milkshops.

There were 682 milkshops on the register at the end of 1916. Four were discontinued during the year, and 27 newly registered. 42 visits were made during the year. Three cases of scarlet fever, one of enteric fever, 13 of measles, and 6 of German measles occurred in milkshops during 1916. Three of these patients were removed to the Sanatorium, the remaining ones being isolated at the home, and precautions taken in all the cases to prevent the spread of the disease.

### Shops Act, 1912.

The shops in the Borough are classified under 53 headings. The card index shows a total of 5,176 shops, as compared with 5,196 last year.

20 businesses have been newly registered during the year, and 40 have been discontinued.

The number of visits made was 1,075 in the daytime and 45 at night.

In 41 cases of infringement, letters of warning were sent to the occupiers.

Two other cases were referred to the Health Committee. One of the occupiers was warned, and the other was summoned by the Health Committee and fined 20s.

Petitions were received for Closing Orders and Weekly Half Holiday Orders from the Retail Furniture Dealers, and also from the Barbers and Hairdressers in the Borough, and in both cases the Health Committee

recommended the Council to make the Orders. The necessary procedure with a view to such Orders being finally confirmed by the Secretary of State is now being taken.

The Council, on recommendation of the Health Committee, made a Closing Order specifying the hours of closing during the week, applying to all shops in which the trade or business of a Boot and Shoe Retailer is carried on in the Borough.

The Order was confirmed by the Secretary of State, and came into operation on March 11th, 1916.

#### COUNTY BOROUGH OF SALFORD.

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SHOPS ACT, 1912.

BOOT & SHOE RETAILERS.

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#### CLOSING ORDER.

NOTICE IS HEREBY GIVEN that the following Order has been confirmed by the Secretary of State, and is now in force, viz :—

SHOPS ACT, 1912.

BOOT AND SHOE RETAILERS.

#### ORDER.

The Council of the County Borough of Salford, in pursuance of the powers conferred upon them by the Shops Act, 1912, and after due compliance with its provisions, DO HEREBY ORDER as follows :—

1.—This Order, which may be cited as the “BOOT AND SHOE RETAILERS’ CLOSING ORDER, 1916,” applies to all shops in the County Borough of Salford in which the trade or business of a Boot and Shoe Retailer is carried on.

2.—All shops to which this Order applies shall be closed for serving customers on the several days of the week hereinafter appearing at and after the following hours respectively :—

Day of Week.	Closing Hour.
Monday, at and after .....	8 p.m.
Tuesday, at and after .....	8 p.m.
Wednesday, Weekly Half-holiday as per Order of the Council, dated 12th February, 1913 :	
Shops close at and after .....	1 p.m.
Thursday, at and after .....	8 p.m.
Friday, at and after .....	9 p.m.
Saturday, at and after .....	10–30 p.m.

Provided (a) that where the occupier of a shop to which this Order applies elects to close his shop for the Weekly Half-holiday on Saturday, instead of on Wednesday, the closing hour on Wednesday shall be at and after 8 p.m. ; and (b), that during the week preceding Easter Sunday, Whit Sunday, and August Bank Holiday, and also during the seven days preceding Christmas Day, the closing hours mentioned above (except as regards the Weekly Half-Holiday) shall not apply.

3.—Where any trade or business other than the trade or business of a Boot and Shoe Retailer is carried on in any shop to which this Order applies, such shop may be kept open after the closing hour mentioned in Article 2 of this Order for the purpose of the first-mentioned trade or business alone, provided that (a) after the said closing hour there shall be exhibited, in some conspicuous places on the exterior and in the interior of such shop, notices in letters of the size of not less than two inches, containing the following words :—“ SHOPS ACT, 1912. THIS SHOP IS CLOSED FOR TO-DAY EXCEPT FOR THE TRADE OR BUSINESS OF ; ”

(b) so far as reasonably practicable no goods in connection with the trade or business for which the shop is required to be closed shall be exhibited either inside or outside the shop.

Dated this fifth day of January, 1916.



L S

The Common Seal of the Mayor, Aldermen and Burgesses of the County Borough of Salford was, pursuant to a Resolution of the Council in that behalf, dated the fifth day of January, 1916, hereunto affixed in the presence of

*(Signed)* JULIUS HULTON, *Mayor.*

*(Signed)* L. C. EVANS, *Town Clerk.*

In pursuance of Section 6 (2) of the Shops Act, 1912, I hereby confirm the foregoing Order.

*(Signed)* HERBERT SAMUEL,

One of His Majesty's Principal Secretaries  
of State.

Whitehall, 3rd March, 1916.

L. C. EVANS,

*Town Clerk.*

Town Hall, Salford, 11th March, 1916.

N.B.—Proviso (b) to Article 2 does not affect the obligation of a shopkeeper to close for the weekly half-holiday, but any shopkeeper may, if he so desires, avail himself of the provisions of Section 4 (5) of the Act which provides that if a shop is closed throughout the whole of a Bank Holiday and the Bank Holiday does not fall on the day fixed for the weekly half-holiday the shopkeeper may keep his shop open *either* on the half-holiday before *or* on the half-holiday after the Bank Holiday.

### **Fertilisers and Feeding Stuffs Act, 1906.**

No samples have been taken under this Act.

### **Pharmacy Act, 1868.**

No licenses have been granted in the Borough.

### Smoke Nuisance.

Particulars as to smoke nuisances caused by firms during the year 1916, and dealt with by the Health Committee :—

25 notices were issued under the Public Health Act.

2 firms were summoned by the Health Committee in respect of smoke nuisances during the year 1916. One firm was fined 10s. and 20s. costs, and the case against the other firm was withdrawn.

Owing to the war several firms engaged on Government work were being pressed for quick delivery of the goods ordered and consequently the boilers in many cases were being worked at their utmost capacity. Even then this was insufficient to produce the steam required which caused the emission of more smoke than when working under normal conditions.

They also have a great difficulty in obtaining firemen, and in a number of cases had to rely on labourers to do the work.

During the year 1916 3,228 smoke observations have been made, as against 3,189 in the year 1915, and 3,415 in the year 1914. Three hundred and nineteen stokers and others were cautioned by the Inspector for negligence in firing the furnaces under their charge ; at the same time 118 firms were reported to, and dealt with by, the Health Committee ; also 319 cautionary notices were issued to firms, with a table of smoke observations taken from their chimneys.

Several chimneys have been raised during the year in connection with small workshops.

TABLE SHOWING THE NUMBER OF HALF-HOURLY OBSERVATIONS  
TAKEN DURING THE YEAR 1916.

Minutes of Black Smoke emitted in half-an-hour.	No. of Observations taken.	Percentage to Total.
No Black Smoke .....	1,491	46.2
One Minute .....	1,002	31.0
Two Minutes .....	317	9.8
Three Minutes .....	300	9.3
Over Three Minutes .....	118	3.7
Total Observations taken ...	3,228	100.0

### Manure Receptacles, and Removal of Manure and other Offensive Matter.

The Bye-laws with respect to receptacles for manure and the weekly removal of manure, filth, or other offensive or noxious matter, which came into operation towards the end of 1909, have been enforced during the past year, and special attention has been paid to stable yards where manure quickly accumulates and where no receptacle is provided.

The Bye-laws as regards the regular removal of manure have been well observed.

### Offensive Trades.

An application was made for permission to establish the trade of gut scraping at certain premises, and after certain alterations had been carried out the request was granted.

An application was also made for permission to carry on the business of fat melting at certain premises, but the request in this case was not granted.



**OFFENSIVE TRADES.**—The following is a list of the offensive trades in the Borough :—

Nature of Trades.	Borough.	Discontinued.	Newly Registered.
Tripe Dressing .....	5	..	..
Soap Works .....	5	..	..
Oil and Tallow .....	2	..	..
Tanneries .....	1	..	..
Varnish and Tar .....	..	..	..
Skin Mat Makers .....	3	..	..
Gut Scrapers .....	3	..	1
Total .....	19	..	1

**Canal Boats Acts.**—

Number of canal boats inspected .....	230
Number of canal boats conforming to Acts .....	199
Number of canal boats with one or more infringements ..	31
Total number of infringements .....	41
Registration .....	..
Notification of change of master.....	..
Absence of certificates .....	11
Marking .....	8
Overcrowding .....	..
Separation of the sexes .....	..
Cleanliness .....	..
Ventilation .....	..
Ventilators obstructed .....	..
Painting .....	5
Provision of water vessel .....	1
Water vessels broken.....	1
Removal of bilge water .....	..
Boats defective and leaking .....	10
Stove pipes defective .....	3
Dilapidation .....	1

**Canal Boats Acts—Continued.**

Pump defective.....	1
Admittance of Inspector.....	..
Notification of infectious disease .....	..
Certificates not identifying owners .....	..
Loading manure without tight bulkheads .....	..
Number of notices served .....	10

Other steps taken to secure compliance: 3 letters were written to the owners.

Detention of boats for cleansing and disinfection—none.

Legal proceedings taken: None.

Number of boats on register. Not a Registration Authority.

Canal boats registered to carry .....	965
Men found on the boats .....	365
Women found on the boats.....	65
Children under 12 years found on the boats .....	64

**Drainage Inspection.**

The testing and examination of all existing drainage is carried out by this Department. Two Inspectors and four labourers are kept continually at work examining drainage, and the following table gives the detailed results of their labours:—

Number of tests made .....	673
„ applications from householders .....	23
„ houses affected by the tests .....	1,059
„ notices and reports issued.....	331
„ notices and reports complied with.....	308
„ drain inlets opened and cleared .....	2,542

## INSANITARY CONDITIONS FOUND.

## Defects.

Number of drains wholly and partly choked .....	596
„ drains defectively constructed .....	290
„ gully traps badly laid .....	55
„ drains defectively trapped .....	57
„ waste pipes defectively trapped or connected to drains .....	17
„ downspouts connected to drains .....	29
„ soil pipes with leaking joints or defectively ventilated .....	17
„ defective water closets .....	100
<hr/>	
Total defects .....	1,161

RECONSTRUCTION OF DRAINS AND THE CONSTRUCTION  
OF NEW DRAINS.

Number of tests applied .....	480
„ houses affected .....	470
„ passage drains (tests) .....	7

**Mode Wheel Ambulance and Disinfecting Station.**

STAFF.—The work of this department is supervised by an Inspector, who devotes part of his time only to this work. Under his control there are five drivers, one of whom is resident at the station, five disinfectors, one of whom attends to the steam disinfecting machines, and two labourers who clean the public conveniences in the Borough. There is one horse, three horse ambulances, three motor ambulances, one horse bedding van, and two motor bedding vans. The disinfecting machines are two large Goddard, Massey and Warner's high pressure stoves.



The following are the details of the work carried out during the year :—

**SALFORD CASES.**—626 journeys were made by the ambulances ; 1,140 journeys were made for the removal of infected bedding and clothing. 1,077 houses were disinfected, involving the disinfection of 3,193 rooms. 2,126 bundles of clothing were disinfected by steam at the station.

**OUT-DISTRICT CASES.**—338 journeys were made by the ambulances ; 54 journeys were made for the removal of infected bedding and clothing ; 501 bundles of clothing have been disinfected by steam at the Station. Five journeys were also made for the removal of cases coming under the jurisdiction of the Port Sanitary Authority ; disinfection has been carried out on five ships stationed at the Manchester Ship Canal, and 17 bundles of clothing and bedding have been disinfected. 493 journeys were made for the removal of convalescent cases from the Ladywell Sanatorium to their homes.

**SALFORD CASES AND OUT-DISTRICT CASES.**—1,227 journeys were made during the year, delivering disinfected bedding and clothing.

104 bundles of clothing and bedding were destroyed at the owners' request.

Disinfection has been carried out at 12 schools, and also at 21 public institutions in the Borough during the year. 99 books from public and private libraries have been disinfected.

6,850 kits and bundles of bedding from the Military Hospitals in the Borough were disinfected, involving 581 journeys.

5 midwives were bathed at the station, and their clothing and various instruments disinfected. 46 "Contacts" were also bathed.

18 children in a verminous state were bathed and their clothing disinfected.

The ambulances belonging to the Salford Union were disinfected on 10 occasions.

1,250 journeys were made in connection with the various hospitals.

### Sanitary Conveniences.

There are 21 conveniences in the Borough, under the control of the Health Committee, situated:—

Trinity Market, Salford.  
Liverpool Street, Salford.  
Broughton Lane, Broughton.  
Bolton Road (junction of Claremont Road), Pendleton.  
Whit Lane, Pendleton.  
Windsor Bridge, Salford.  
Blucher Street, Salford.  
Stevenson Street, Salford.  
The Cliff, Broughton.  
Park Lane, Broughton.  
Broad Street, Pendleton.  
Greengate Arch, Salford.  
Eccles New Road, Weaste.  
Broughton Bridge.  
Frederick Road, Pendleton.  
Cross Lane, Salford.  
Trafford Road (Eccles New Road corner).  
" " (near the Docks)  
Oldfield Road (corner of Chapel Street).  
Moor Lane, Broughton.  
Royal Archer, Lower Broughton Road.

These conveniences have been kept in a clean condition.

**TABLE G 1.****COMMON LODGING-HOUSES, 1916.**

Wards.	Crescent.	Islington.	Ordsall.	St. Matthias'	St. Paul's.	St. Thomas's.	Trinity.	Total.
Number on Register .....	5	11	1	1	1	3	3	25
Number added to Register in 1916.....	..	..	..	..	..	..	..	..
Number Re-registered under Part 5 Public Health Acts Amendment Act, 1907 .....	3	4	..	..	..	2	1	10
Number removed from Register in 1916 ..	..	..	..	..	..	..	..	..
Number of Rooms.....	48	61	7	7	7	20	34	184
„ „ Beds .....	231	540	40	34	32	92	212	1,181
Average Number occupied each night—Males .....	159	435	36	22	19	47	137	855
Females .....	..	..	..	..	..	..	..	..
Notices served on Landlords .....	7	4	..	3	1	..	5	20
„ „ Keepers.....	2	..	..	..	..	..	..	2
Number of Day Inspections .....	240	546	46	55	39	116	169	1,211
„ Night „ .....	16	10	2	..	..	4	..	32



TABLE G 2.

SAMPLES COLLECTED BY THE INSPECTOR, UNDER THE "SALE OF FOOD AND DRUGS ACT," FROM 1875 TO 1916.

	Total.	Milk.	Butter.	Bread and Flour.	Drugs.	Gro- ceries.	Beer and Porter.	Wines and Spirits.	Sun- dries.
1875..	60	37	1	1	1	..	7	4	9
1876..	119	43	2	18	34	17	..	..	5
1877..	390	114	7	159	22	30	18	37	3
1878..	418	197	10	35	31	25	24	70	26
1879..	518	306	16	130	15	28	10	13	..
1880..	506	269	12	48	5	52	71	18	31
1881..	478	376	11	1	..	61	..	8	21
1882..	465	300	7	47	13	3	58	20	17
1883..	497	436	1	29	1	12	..	2	16
1884..	507	359	10	35	7	..	64	11	21
1885..	478	399	21	14	4	13	21	..	6
1886..	483	361	6	21	..	36	1	22	36
1887..	472	355	2	..	..	25	42	43	5
1888..	883	701	6	..	30	83	..	9	54
1889..	832	652	35	..	21	85	15	17	7
1890..	874	591	41	38	24	64	12	49	55
1891..	901	611	20	20	18	134	23	74	1
1892..	853	613	78	31	13	61	7	44	6
1893..	955	855	15	1	..	51	6	27	..
1894..	765	676	50	1	..	35	..	3	..
1895..	767	633	58	7	1	25	..	12	31
1896..	730	419	247	5	..	21	13	20	5
1897..	791	460	236	32	..	24	..	39	..
1898..	771	365	332	16	7	25	..	14	12
1899..	763	338	389	..	5	11	..	..	20
1900..	752	297	327	14	..	33	48	9	24
1901..	760	312	388	10	..	11	26	..	13
1902..	785	296	440	5	..	31	..	..	13
1903..	825	312	355	12	..	70	13	15	48
1904..	826	284	285	6	2	216	1	22	10
1905..	801	325	245	7	..	193	..	16	15
1906..	894	369	237	9	4	237	..	5	33
1907..	890	435	250	5	..	187	..	..	13
1908..	899	417	234	9	8	205	12	..	14
1909..	898	401	263	7	..	209	..	..	18
1910..	956	397	284	10	..	250	..	..	15
1911..	903	378	257	13	..	228	..	..	27
1912..	954	413	273	7	..	238	..	..	23
1913..	944	355	272	12	19	243	..	..	43
1914..	949	351	255	25	39	254	..	..	25
1915..	1174	435	229	65	54	374	..	..	17
1916..	1202	386	134	63	57	51	..	..	48

TABLE G 2.—*continued.*  
PERCENTAGE OF ARTICLES RETURNED AS ADULTERATED.

	Total	Milk.	Butter.	Bread and Flour.	Drugs.	Gro- ceries.	Beer and Porter.	Wines and Spirits.	Sun- dries.
1875..	66.6	62.1	100.0	..	..	..	100.0	75.0	66.6
1876..	40.3	55.8	50.0	27.8	35.3	17.6	..	..	60.0
1877..	27.4	40.3	28.6	11.3	13.6	6.7	..	97.3	..
1878..	29.9	29.4	10.0	2.9	51.6	4.0	4.2	67.1	..
1879..	12.0	13.1	25.0	5.4	26.6	10.7	10.0	2.3	..
1880..	20.2	25.2	75.0	6.3	..	17.3	11.3	11.1	9.7
1881..	16.3	18.1	9.1	..	..	1.6	..	37.5	23.8
1882..	15.5	19.0	14.3	2.1	53.8	..	1.7	10.0	17.6
1883..	6.6	6.7	..	3.4	..	8.3	..	50.0	6.3
1884..	7.1	2.8	40.0	5.7	57.1	..	..	27.3	61.9
1885..	5.2	4.8	4.8	7.1	..	15.4	..	..	33.2
1886..	3.9	1.1	50.0	..	..	25.0	..	..	8.3
1887..	8.7	9.9	..	..	..	8.0	2.4	7.0	..
1888..	6.3	2.8	100.0	..	26.6	13.3	..	..	20.4
1889..	10.1	7.3	22.8	..	28.5	24.7	..	..	14.2
1890..	5.1	1.9	50.0	..	..	15.6	..	30.6	12.7
1891..	6.1	1.4	35.0	10.0	..	22.3	..	9.4	..
1892..	7.4	4.2	29.5	..	23.1	18.0	..	..	..
1893..	6.6	4.0	26.7	..	..	17.6	..	59.3	..
1894..	1.2	1.1	2.0	..	..	..	..	..	..
1895..	2.3	1.2	15.5	..	..	8.0	..	..	..
1896..	4.1	2.4	6.5	..	..	..	..	20.0	..
1897..	4.3	4.3	4.2	..	..	..	..	7.7	..
1898..	1.9	1.6	1.8	..	2.9	..	..	7.1	..
1899..	3.9	2.4	4.4	..	100.0	..	..	..	..
1900..	3.7	3.4	0.9	..	..	..	25.0	33.3	4.2
1901..	1.7	2.9	1.0	..	..	..	..	..	..
1902..	1.1	1.7	0.9	..	..	..	..	..	..
1903..	0.6	1.3	..	..	..	..	..	..	2.0
1904..	3.6	3.5	2.1	..	..	0.9	..	54.5	..
1905..	1.9	2.5	1.6	..	..	..	..	12.5	6.6
1906..	1.7	3.5	..	..	..	0.8	..	..	..
1907..	0.5	0.7	0.4	..	..	..	..	..	..
1908..	0.9	1.7	0.4	..	..	..	..	..	..
1909..	0.6	1.2	..	..	..	..	..	..	..
1910..	2.2	4.8	0.3	..	..	0.4	..	..	..
1911..	2.5	4.8	1.6	..	..	0.4	..	..	..
1912..	1.8	3.6	..	..	..	0.8	..	..	..
1913..	1.6	3.4	0.7	..	..	..	..	..	2.3
1914..	2.4	3.1	..	..	28.2	0.4	..	..	..
1915..	2.8	4.8	3.5	..	3.7	0.5	..	..	..
1916..	5.8	10.1	1.5	1.6	22.8	..	..	..	31.3

TABLE G 3.

## NEW HOUSES ERECTED AND HOUSES DEMOLISHED IN 1916.

Wards.	Houses erected.	Houses demolished.
Kersal .....	6	—
Albert Park .....	—	—
Grosvenor .....	—	—
St. Matthias' .....	—	—
Trinity .....	—	—
Crescent .....	—	—
Islington .....	—	—
Regent .....	—	—
Ordsall .....	—	—
Trafford .....	—	—
Charlestown .....	10	1
St. Thomas' .....	—	—
St. Paul's .....	—	—
Seedley .....	—	—
Weaste .....	—	—
Hope .....	5	—
	<hr/>	<hr/>
	21	1



TABLE G 4.

WATER CLOSETS PROVIDED IN 1916 IN LIEU OF PRIVY MIDDENS AND  
PAIL CLOSETS, AND ALSO ADDITIONAL WATER CLOSETS PROVIDED  
IN THE RE-MODELLING OF INSANITARY DWELLINGS.

Wards.	
Kersal .....	—
Albert Park .....	10
Grosvenor .....	1
St. Matthias' .....	—
Trinity .....	2
Crescent .....	—
Islington .....	2
Regent .....	—
Ordsall .....	1
Trafford .....	19
Charlestown .....	14
St. Thomas' .....	9
St. Paul's ... ..	2
Seedley .....	17
Weaste .....	10
Hope .....	—
	87

TABLE G 5.

CASES HEARD BEFORE MAGISTRATES, 1916.

Particulars of Offence.	No. of Cases.	Decision of Justices.	Total Fines without Costs.
			£ s. d.
Keeper permitting the overcrowding of a room in a seaman's lodging house.	5	Fined without costs...	3 15 0
For permitting an unlicensed house to be used as a seaman's lodging house.	3	2 fined without costs... 1 dismissed.	1 5 0
Keeper of seaman's lodging house permitting an unlicensed room to be used as a sleeping apartment.	1	Fined without costs...	2 0 0
Keeper of seaman's lodging house failing to have fixed in a conspicuous place, in rooms of house, tickets indicating number of lodgers allowed.	3	1 fined without costs and no fines inflicted in 2 cases.	1 0 0
Consigning milk to a Salford Milk Dealer, which was not of the nature, substance, and quality demanded.	4	Fined without costs...	4 0 0
For selling milk which was found on analysis not to be of the nature, substance, and quality demanded.	4	Fined without costs...	4 10 0
For exposing for sale 12 pieces of bacon which were unfit for the food of man.	1	Fined 5s. on each piece.	3 0 0
Carried forward .....	21		£20 10 0

## CASES HEARD BEFORE MAGISTRATES, 1916.—Continued.

Particulars of Offence.	No. of Cases.	Decision of Justices.	Total Fines without Costs.
			£ s. d.
Brought forward.....	21		20 10 0
For failing to comply with the requirements of Notices under the Public Health Act, 1875, to abate nuisances arising from certain sanitary defects.	7	1 fined with costs . . . . 1 fined cost of summons 1 fined without costs and order to abate obtained. 2 withdrawn. 2 withdrawn on payment of costs.	1 15 0
Occupier allowing house to be so overcrowded as to be injurious to health of inmates.	1	Fined without costs and order to abate obtained	0 10 0
For non-compliance with order to abate nuisance arising from the emission of black smoke from the chimney of works.	2	1 fined with costs . . . . 1 withdrawn.	0 10 0
Contravening the Shops Act by selling goods after the hour specified for closing.	1	Fined without costs . . .	1 0 0
TOTAL .....	32		£24 5 0



**TABLE G 6.****REGISTER OF WORK DONE—YEAR ENDING DECEMBER 30TH, 1916.**

No. of Complaints received .....		3138
Inspections of	( Dwelling-houses (Day) .....	19753
	"                    (Night) .....	14
	Schools .....	576
	Factories .....	22
	Canal Boats .....	230
	Common Lodging-houses (Day).....	1211
	"                    "                    (Night) .....	32
	Sub-let                    "                    (Day).....	946
	"                    "                    (Night) .....	17
	Seamen's Lodging-houses (Day).....	533
	"                    "                    (Night) .....	36
	Slaughter-houses .....	1553
	Dairies and Milk-shops .....	42
	Shippens .....	39
	Piggeries .....	47
	Van Dwellings.....	11
	Tips .....	34
	Bakehouses (Day) .....	169
	"                    (Night) .....	2
	Workshops (Day).....	604
	"                    (Night) .....	36
	Domestic Workshops .....	99
	Domestic Workshops (Night) .....	4
	Restaurant Kitchens .....	6
	Premises where food is prepared ....	149
	Fish and Fruit Stalls and Shops .....	23
	Poulterers' Shops .....	17
	Meat Stalls .....	14
	Butchers' Shops and Stalls .....	155
	Pork Cellars.....	6
	Greengrocers' Shops .....	36
	Grocers' Shops .....	100
	Outworkers' Premises .....	346
	Re Offensive Trades .....	53
	Re Shops Act .....	1075
	Re Shops Act (Night).....	45
	Re Midwives .....	369
	Re Still Births.....	125
	Re Infantile Deaths .....	76
	Re Verminous Houses .....	..
	"                    "                    Children.....	..
	Miscellaneous .....	3323
	Re Smallpox contacts .....	1906
	Laundries .....	28
	Urinals —Public .....	123
	—Private .....	217
	Re Infectious Disease .....	2018
	Re Ophthalmia Neonatorum .....	378
	Re Cases of Phthisis.. ..	5044
	( Re Cases of Measles.....	1533

## REGISTER OF WORK DONE—(Continued).

Re-inspections .....	7992	
Action taken ..	{ Notices issued .....	1559
	„ uncomplied with .....	114
	{ Letters written .....	5279
	{ Summonses issued .....	32
Disinfection—Houses Disinfected .....	1083	
House Drains ..	{ Repaired .....	112
	{ Reconstructed .....	368
	{ Trapped .....	108
	{ Slopstone Pipes disconnected from .....	..
Water Closets ..	{ Downspouts disconnected from .....	..
	{ New, provided .....	87
	{ Ventilated .....	..
	{ Soil-pipes ventilated .....	..
Ash receptacles ..	{ Urinals provided .....	..
	{ New, provided .....	303
Limewashed ..	{ Dwelling-houses .....	18
	{ Cellars .....	..
	{ Lodging-houses .....	20
	„ Sub-let .....	39
	„ Seamen's .....	4
	{ Bakehouses .....	109
	{ Slaughter-houses .....	..
	{ Dairies and Milkshops .....	6
	{ Workshops .....	23
	{ Workshops (Domestic) .....	6
	{ Outworker's premises .....	29
	{ Laundries .....	2
Limewashed ...	{ Restaurant kitchens .....	..
	{ Shippons .....	..
	{ Urinals .....	6
	{ Offensive Trade Premises .....	..
Closure of .....	{ Houses unfit for habitation .....	..
	{ Lodging-houses .....	..
	„ „ Sub-let .....	36
	{ Slaughter-houses .....	..
	{ Workshops .....	21
	„ (Domestic) .....	13
Newly registered ..	{ Dairies and Milkshops .....	27
	{ Bakehouses .....	14
	{ Laundries .....	1
	{ Shops under Shops Act .....	20
	{ Second-hand Goods Stores .....	41
	{ Offensive Trades .....	1
	{ Manure and Refuse .....	67
Accumulations Removed .....	{ Stagnant Water .....	9
	{ Manure receptacles provided .....	..
Smoke Nuisance	{ Observations taken .....	3228
	{ Notices served .....	25
	{ Cautionary Notices served .....	319
Passages and Yards .....	{ Flagged .....	..
	{ Repaired .....	199
	{ Drained .....	..
Infected Bedding and Clothing ..	{ Stoved .....	2134
	{ Destroyed .....	100
Food .....	{ Samples purchased for analysis .....	708

REGISTER OF WORK DONE—(*Continued*).

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Milk .....	Samples obtained for bacteriological examination .....	1
Unsound Food ...	Seizures made .....	708
Animals removed from improper situations.....		7
Overcrowding of dwellings abated .....		24
Houses repaired, by owners, after notice .....		1189
„ cleaned .....		56
Canal Boats painted .....		8
„ defective .....		10
„ repaired ... ..		9

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